

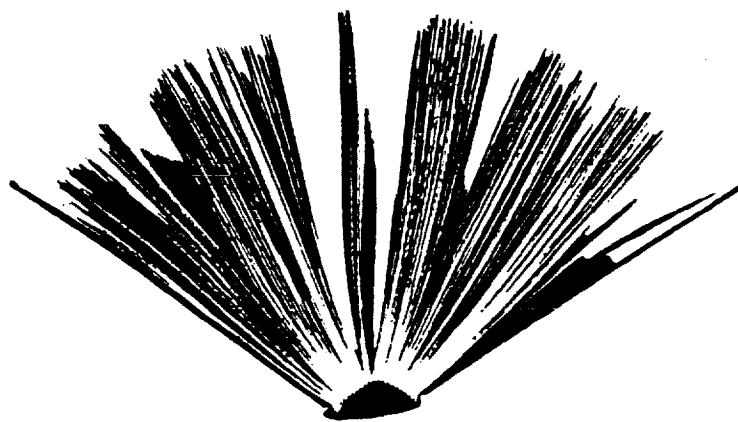
NASA Technical Memorandum 108764

NASA STI PROGRAM=====

COORDINATING COUNCIL

Tenth Meeting===== April 22, 1993

Information Retrieval



The Role of Controlled Vocabularies **(Summary of Proceedings)**

(NASA-TM-108764) COORDINATING
COUNCIL. TENTH MEETING: INFORMATION
RETRIEVAL: THE ROLE OF CONTROLLED
VOCABULARIES (NASA) 63 p

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NASA

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The NASA STI Program ... in Profile

Since its founding, NASA has been dedicated to the advancement of aeronautics and space science. The NASA Scientific and Technical Information (STI) Program plays a key part in helping NASA maintain this important role.

The NASA STI Program provides access to the NASA STI Database, the largest collection of aeronautical and space science STI in the world. The Program is also NASA's institutional mechanism for disseminating the results of its research and development activities.

Specialized services that help round out the Program's diverse offerings include creating custom thesauri, translating material to or from 34 foreign languages, building customized databases, organizing and publishing research results, ... even producing videos.

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- **E-mail** your question via the Internet to help@sti.nasa.gov
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NASA Technical Memorandum 108764

NASA STI PROGRAM
Coordinating Council
Tenth Meeting

April 22, 1993

Information Retrieval: The Role of Controlled
Vocabularies (Summary of Proceedings)



National Aeronautics and
Space Administration

Scientific and Technical
Information Program

1993

This publication was prepared by the NASA Center for AeroSpace Information,
800 Elkridge Landing Road, Linthicum Heights, MD 21090-2934, (301) 621-0390.

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**NASA STI PROGRAM
COORDINATING COUNCIL MEETING**

**INFORMATION RETRIEVAL: THE ROLE OF
CONTROLLED VOCABULARIES**

April 22, 1993
10:00 am - 4:30 pm
Crystal City Gateway 4
Conference Room

Attendees

NASA/Code JTT

Katie Bajis
Barbara Bauldock
Bonnie Carroll
Beth Duston
Jim Erwin
Janice Freeman
Jennifer Garland
Laurie Harrison
Linda Hill
Glenn Hoetker
Karen Holloway
Tom Lahr
Harry Needleman
Kriston Ostergaard
Roland Ridgeway
Lou Ann Scanlan
Ron Sepic
Debbie Stubberfield
Patt Sullivan
Ardeth Taber
Kay Voglewede
John Wilson

NASA/CASI

Carl Eberline
Ron Buchan
Bob Ferris
Wanda Colquitt
Joe Gignac
Jim Schroer
June Silvester
Roy Stiltner

NASA/AIAA/TIS

Tom Cheung
Barbara Lawrence

NASA/GSFC

Paul Baker
Jane Riddle

DoD/DTIC

John Dickert
Marcia Hanna
Gretchen Schlag
Annie Washington
David Williford

DOE/OSTI

Mona Raridon

Batelle

Mason Soule

MITRE

Elaine Lusher
Inderjeet Mani

NLM/MEDLINE

Peri Schuyler

OTHER

Elliott Linder

Welcome

Jim Erwin
NASA STI Program

Overview

Dr. Linda Hill
NASA STI Program

Retrieval: Free Text, Full Text, and Controlled Vocabularies

Dr. Raya Fidel
Associate Professor
Graduate School of Library and Information Science
University of Washington

Thesaurus Standards and Practicalities

Dr. Bella Hass Weinberg
Professor
Division of Library and Information Science
St. John's University

Panel Discussion of Federal Thesauri

Moderator: John Wilson, NASA STI Program

Ron Buchan, NASA/CASI
Gretchen Schlag, DoD/DTIC

Mona Raridon, DOE/OSTI
Peri Schuyler, MEDLINE

NASA STI Program Coordinating Council

The NASA Scientific and Technical Information (STI) Program Coordinating Council consists of participants from NASA Headquarters, NASA Centers, and NASA contractors. The Coordinating Council meets periodically to exchange information and pursue topics of vital interest to the NASA STI Program.

Coordinating Council Meetings

| | | |
|-----------------|---|-------------------|
| First Meeting | NASA RECON Database | May 23, 1990 |
| Second Meeting | International Acquisition | July 23, 1990 |
| Third Meeting | STI Strategic Plan | November 29, 1990 |
| Fourth Meeting | NACA Documents Database Project | February 7, 1991 |
| Fifth Meeting | Quality | July 1, 1991 |
| Sixth Meeting | Who Are Our Key Users? | October 25, 1991 |
| Seventh Meeting | Acquisitions | January 23, 1992 |
| Eighth Meeting | Using the Internet | June 5, 1992 |
| Ninth Meeting | Total Quality Management | October 28, 1992 |
| Tenth Meeting | Information Retrieval: The Role of Controlled Vocabularies | April 22, 1993 |

Document Preparation

The following summary was prepared from the audio tape of the session by the staff at the NASA Center for AeroSpace Information (CASI) and reviewed by the speakers. The summary is intended to give the substance of the presentations and does not attempt to report on either the panel discussion or the comments from the audience.

Information Retrieval: The Role of Controlled Vocabularies

Introductions

Jim Erwin established one of the goals of today's conference as determining the ongoing role of controlled vocabulary in information retrieval. He anticipated that the meeting would help to clearly delineate where we were in the area of information retrieval and allow us to determine how we measure up against the state of the art.

Dr. Hill noted that one of the purposes of the conference was to establish a dialog among the participants on the complex topic of controlled vocabularies and their place as retrieval tools in a free text environment.

Retrieval; Free Text, Full Text, and Controlled Vocabularies. Dr. Raya Fidel

To illustrate the difficulties that can result from a lack of a controlled vocabulary, Dr. Fidel discussed a search for the subject of exposures to substances or conditions that are a risk to health by using the phrase "exposure assessment methodology" (see viewgraphs 1 and 2). The aim of the search was to find information about measurement techniques. The difficulty is that each word in the phrase is so common that, if you ran a search using the words only, you would get a great many citations on a variety of subjects (see viewgraph 3). The ambiguity inherent in the individual words is matched by the ambiguity of the phrase itself. In order to insure broad recall of relevant records, the searcher needs to generate a set of synonyms for each concept. Synonyms include the words that people actually use in practice when they talk about a particular concept. Thus, an effective list of synonyms will include words sharing the same meaning as well as associated terms generated by the searcher out of her knowledge of real-life linguistic behavior.

Terms and concepts

This example of searching for the subject "exposure assessment methodology" illustrates the differences between free text (or even full text)

Information Retrieval: The Role of Controlled Vocabularies

searching and the use of controlled vocabularies (thesaurus terms). The searcher needed to find records that were relevant to the topic. In a free text environment without benefit of a controlled vocabulary, all that she had to search with were natural language terms from the documents or records. She did not have the benefit of controlled vocabulary where terminology for concepts had been standardized. She could not search with concepts. So, she made up the appropriate concepts for that particular search and tried to generate terms that matched those concepts to get at the information that she wanted. This approximates what is done when indexing with a controlled vocabulary. The indexer identifies concepts based on a reading of the material and then chooses the appropriate words (descriptors) from the controlled vocabulary (the thesaurus) to represent those concepts (see viewgraph 4).

Need for controlled vocabularies

Why should we create these controlled vocabularies beforehand and use them in indexing? One of the great values of controlled vocabularies is that they make implicit concepts explicit through hierarchical relationships between terms. These relationships between broad terms and narrow terms cannot be derived from an analysis of free text. They must be intellectual constructs. We have terminological control and content analysis through indexing. We need a controlled vocabulary if we want to retrieve concepts that can be represented in various ways, or inferred, in free text.

Cost versus effectiveness

Are controlled vocabularies cost-effective? Free text advocates argue that they are not cost-effective. Some studies found that free text and controlled vocabulary searching have the same results. Other studies have found that one or the other of the

Information Retrieval: The Role of Controlled Vocabularies

methods were more effective. Most of the studies were flawed; the question has not been answered.

Retrieval effectiveness: Review of retrieval studies

A renewed interest in retrieval techniques and the differences among them resurfaced with the advent of full text searching. There were conflicting results from studies comparing full text searches with controlled vocabulary searches. A study (Tenopir, 1985) using the Harvard Business Review Online database, reported on a controlled experiment in which 31 requests were searched in four different formats: only the text, only the title, only the abstract, and only the descriptors. Results indicated that full text searches retrieved more than the other methods, yielding high recall, but with low precision. The controlled vocabulary performed better than free text if one didn't look at the full text, but only at the titles and abstracts. The conclusion of the study was that a combination of controlled vocabulary with a full text search technique gives the best results, since the controlled vocabulary compensates for the imprecision of the full text search.

Recall capability

In a study (McKinin et al., 1990), 100 questions generated by people that came into the library asking for literature searches were searched using two full text databases. Although the searches resulted in high recall, it was found that using the controlled vocabulary found some articles that were missed by the full text searches. Why were they missed? In 25% of the cases, it was because the concepts were not explicit in the text. In 33% of the cases, failure to capture a document was because the searchers did not use enough synonyms. Thus, in 58% of the cases, the failures could have been avoided by the use of a controlled vocabulary.

Information Retrieval: The Role of Controlled Vocabularies

Precision and recall

An earlier study (Blair & Maron, 1985) found that when you have a very large full text database, you get very poor retrieval using free text searching. In this study, using a 40,000 document database and 360,000 pages of text, legal paraprofessionals with search experience searched 51 questions. Results indicated high precision (79%), but low recall (20%), a counter-intuitive result. Low recall resulted, in part, from the drawbacks that are inherent in full text searching without a controlled vocabulary: the concepts that were being searched had different terms attached to them. Accidents, for example, were variously referred to as events, incidents, situations, problems, difficulties, etc.

When to use free text and/or controlled vocabularies

In the last study cited (Fidel, 1992), 47 searchers were observed as they performed their searches. They were asked to think aloud, reflecting on their reasons for making various decisions. Dr. Fidel also interviewed each searcher. It was found that the decision whether to use a free text search term or a controlled vocabulary search term depended on the specific situation. If the term was a common one, it was best to use descriptors. If the term was well-defined and recall was not important (the client simply wanted to get some articles), then free text was used.

Conclusion

The overall conclusion drawn from a review of these studies was that full text searching can by no means replace the use of a controlled vocabulary. The ideal search environment is one in which a controlled vocabulary complemented a free text search capability.

Thesaurus Standards and Practicalities Dr. Bella Hass Weinberg

Dr. Weinberg analyzed the various structures of thesauri and their display in print and online, early making the point that there was not one standard or

Information Retrieval: The Role of Controlled Vocabularies

correct structure for thesauri. Chosen for comparison were four thesauri produced by government agencies that participated in the following panel discussion: the National Aeronautics and Space Administration (NASA), the National Library of Medicine (NLM), the Department of Defense (DoD), and the Department of Energy (DOE). The structures of the thesauri are varied and complex, a situation that contributes to a lack of utilization. Using viewgraphs to illustrate the hierarchical arrangement of terms, the thesauri were presented in order of increasing complexity of structure: the Defense Technical Information Center Thesaurus (see viewgraphs 5-9), the Department of Energy's International Energy Subject Thesaurus (see viewgraphs 10-13), the NASA Thesaurus (see viewgraphs 14-23), and the National Library of Medicine's Medical Subject Headings (MeSH) (see viewgraphs 24-31). Comparisons and contrasts were made among such thesaurus features as the structure of broader and narrower terms, the presence or absence of related terms, and levels of hierarchy.

Analysis of four thesauri

Specifically, Dr. Weinberg analyzed in some detail the following aspects of the four thesauri (see viewgraph 32) : the primary alphabetic sequence, the dictionary, the concordance of all words, and the classified display. Again, the overriding point was how confusing thesauri can be to users.

Alphabetic sequence

In the DOE thesaurus, the primary alphabetic sequence is called Subject Thesaurus; in DTIC it is called Posting Terms; in MeSH, Annotated Alphabetic List; and in the NASA Thesaurus, Hierarchical Listing.

Dictionary

Dictionary functions are also variously accomplished. In the DOE thesaurus, some definitions are within the alphabetic sequence, with a tag. In

Information Retrieval: The Role of Controlled Vocabularies

DTIC, there are some definitions, without a tag. MeSH includes some lexical information within scope notes. NASA carries the definitions in a separate volume.

Concordance

DOE has no concordance. DTIC calls its concordance Key Words Out of Context, and places it in Section 3. MeSH calls it Permuted Medical Subject Headings, while NASA calls it Access Vocabulary.

Classified display

DOE has no classified display. DTIC has a separate hierarchical listing. MeSH has a separate hierarchical display, one that consists of tree structures with no redundancy to the alphabetic display. NASA's thesaurus does not have a separate printed panorama of the classification of all its descriptors. However, it provides complete broader- and narrower-term relationships for each term within the alphabetical sequence, called the Hierarchical Listing.

Semantic relationships

Next, Dr. Weinberg discussed thesaurus notation for semantic relationships (see viewgraph 33). In abstract terms there are three categories of semantic relationships: equivalence, hierarchy, and association.

Online thesaurus display

In her discussion of online thesaurus display, Dr. Weinberg noted that, compared with print displays, online displays in the major vendor systems are poorer, offering less information to the user (see viewgraphs 34-45). For example, scope notes are truncated. The definition information is not yet available in the major online systems. She found that some people who are mounting thesauri at DIALOG do not understand thesaurus codes. Used and Used For are both truncated to U and used in both directions in certain databases (see viewgraph 39).

Conclusion

In conclusion, Dr. Weinberg noted the great variations in thesauri structures. She argued that

Information Retrieval: The Role of Controlled Vocabularies

greater uniformity would simplify consultation of thesauri. (She is not, however, advocating uniformity in vocabularies.) She also called for a common command language for information retrieval that would enhance end user employment of the controlled vocabulary that we put so much effort into building.

Panel discussion

In the lively panel discussion on developing federal thesauri, a number of important issues were covered: the uses of retrospective indexing, the question of whether the addition of more postings to controlled vocabularies constitutes an advantage or a disadvantage to searchers, the impact of machine-aided indexing, and efforts aimed at standardizing terminology. What the panelists agreed upon was the need for on-going consultations among the panel participants on standardizing their respective vocabularies whenever possible.

References

Blair, David C. & Maron, M. E. (1985). An evaluation of retrieval effectiveness for a full-text document-retrieval system. Communications of the ACM, 28(3): 289-299.

Fidel, Raya (1992). Who needs controlled vocabulary? Special Libraries, 83(1) : 1-9.

McKinin, Emma Jean et al. (1991). The Medline/Full-Text Research Project. Journal of the American Society for Information Science, 42(4) : 297-307.

Tenopir, Carol (1985). Full text database retrieval performance. Online Review, 9(2) : 149-164.

Viewgraphs

Retrieval: Free Text, Full Text, and Controlled Vocabularies

Dr. Raya Fidel

Exposure Assessment Methodology

Exposure AND Assessment AND Methodology

Raya Fidel



April 22, 1993

exposure

expos#

health hazard#

accident#

AND

assessment

assess#

evaluat#

estimat#

determin#

measur#

AND

methodology

method#

technique#

procedure#

process#

monitor#

(names of

specific

methods)

environmental exposure methodology
occupational exposure methodology

Raya Fidel



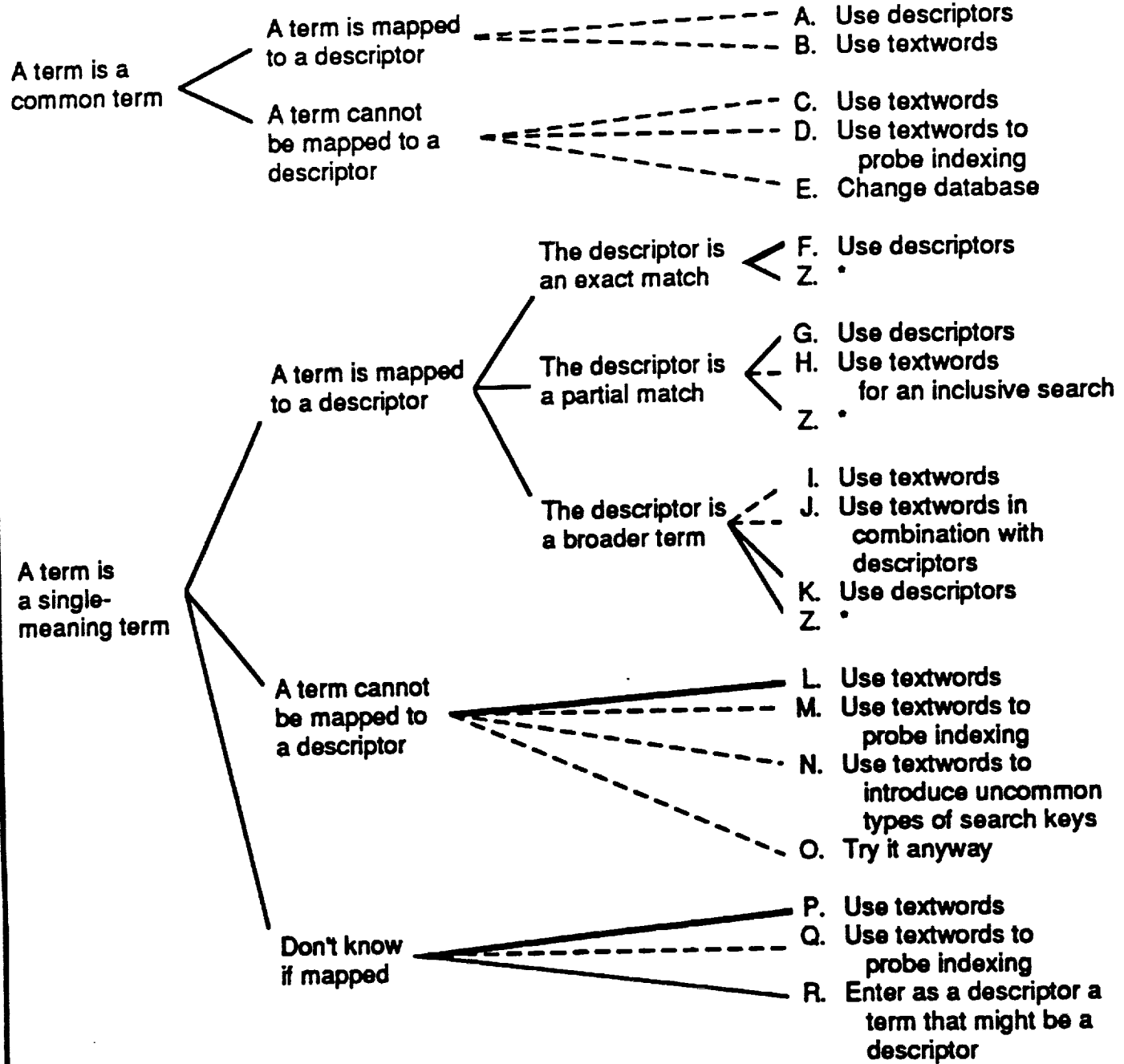
April 22, 1993

- **A term has many meanings**
- **A term is ambiguous**
- **A term is vague**
- **A term occurs too frequently
in the database's text**

Raya Fidel



April 22, 1993



Viewgraphs

Thesaurus Standards and Practicalities

Dr Bella Hass Weinberg

Viewgraphs 5 through 31 are pages from the DoD, DOE, NASA, and NLM thesauri.

Viewgraphs 32 and 33 are charts comparing the structures of the four thesauri.

Viewgraphs 32 through 45 are illustrations of DIALOG'S online thesaurus.

Defense Technical Information Center Thesaurus



September 1990

distributed by

Defense Technical Information Center
DEFENSE LOGISTICS AGENCY
Cameron Station • Alexandria, Virginia 22304-6145

POSTING TERM ENTRY EXPLANATION

- a. ARMY
- b. (Scope note if necessary)
- c. UF Army department
- d. UFC Army medicine
- e. BT *MILITARY FORCES (UNITED STATES)
- f. NT FIELD ARMY
- g. Army department
use ARMY

Army medicine
use ARMY
and MILITARY MEDICINE

- a. Posting Term - A main entry appearing in boldface type which represents a significant class of concepts used for indexing and retrieval.
- b. Scope Note - Exists when necessary to further define or limit the meaning or usage of a posting term.
NOTE: A date immediately preceding a scope note denotes the year and month the term was established as an authorized DTIC posting term.
- c. Used For (UF) - The posting term at the main entry is to be used for any term following this notation. Reciprocates with use reference.
- d. Used For Combination (UFC) - The posting term at the main entry together with one or more other posting terms are to be used for any term following this notation. Reciprocates with multiple use reference.
- e. Broader Term (BT) - Posting terms following this notation represent a broader class which includes the main entry posting term.
NOTE: An (*) symbol in front of a BT indicates the existence of broader generic levels of terms.
- f. Narrower Term (NT) - Posting terms following this notation are within the class of concepts represented by the main entry posting term.
NOTE: An (*) symbol in front of a NT indicates the existence of narrower generic levels of terms.
- g. Use Reference - Refers the user to one or more preferred main entry posting terms. Always reciprocates with UF and UFC references.

ENVIRONMENTAL ENGINEERING

BT ENGINEERING

ENVIRONMENTAL IMPACT

(81/09) - Predetermination of the extent of pollution or environmental degradation.

ENVIRONMENTAL IMPACT STATEMENTS**ENVIRONMENTAL MANAGEMENT**

BT MANAGEMENT

ENVIRONMENTAL PROTECTION

BT PROTECTION

ENVIRONMENTAL PSYCHOLOGISTS

BT PERSONNEL

ENVIRONMENTAL TESTS

BT *TEST METHODS

NT COLD WEATHER TESTS

DESERT TESTS

LIQUID IMMERSION TESTS

SALT SPRAY TESTS

SEA TESTING

TROPICAL TESTS

ENVIRONMENTS

NT *AEROSPACE ENVIRONMENTS

CONFINED ENVIRONMENTS

ELECTROMAGNETIC ENVIRONMENTS

INDUCED ENVIRONMENTS

LUNAR ENVIRONMENTS

*OCEAN ENVIRONMENTS

ENZOOTIC

(83/05) - A disease affecting animals in limited geographic regions.

BT DISEASES

ENZYME ANTAGONISTS

use ANTIMETABOLITES

ENZYME CHEMISTRY

BT *BIOCHEMISTRY

ENZYME INHIBITORS

BT INHIBITORS

NT *CHOLINESTERASE INHIBITORS
SERINE**ENZYME PRECURSORS**

UF CHYMOSINOGEN

PEPSINOGEN

PLASMINOGEN

PREENZYMES

PROENZYMES

PROFIBRINOLYSIN

PRORENNIN

TRYPSINOGEN

NT *ENZYMES

PROTHROMBIN

ENZYMES

BT ENZYME PRECURSORS

NT ADENYL CYCLASE

*COENZYMES

COLLAGENASE

*DEHYDROGENASES

DEXTRANSUCRASE

GLUCANASES

*HYDROLASES

*ISOMERASES

*ISOZYMES

KETOACID LYASES

LUCIFERASE

*LYASES

MUCOLYTIC ENZYMES

NUCLEASE

*OXIDOREDUCTASES

PEPSINS

SACCHARIDASES

*TRANSFERASES

EOSINOPHILS

BT *LEUKOCYTES

EPHEMERIDES

UF EPHEMERIS

EPHEMERIS

use EPHEMERIDES

EPICENTERS

BT GEOGRAPHIC AREAS

EPIDEMIOLOGY

BT *MEDICINE

EPIDERMIS

(83/05) - The superficial portion of the skin, composed of a horny layer (stratum corneum) and a living, cellular part in layers named from outside inward: The stratum lucidum (when present), the stratum granulosum, the stratum spinosum, and the stratum germinativum. Skin is composed of dermis and epidermis.

BT *SKIN(ANATOMY)

EPILEPSY

BT *CONVULSIVE DISORDERS

EPIMERASES

use RACEMASES AND EPIMERASES

EPINEPHRINE

BT *CATECHOLAMINES

NT NOREPINEPHRINE

EPITAXIAL GROWTH

BT *CRYSTAL GROWTH

EPITHELIUM

BT TISSUES(BIOLOGY)

EPIZOOTIC

(83/05) - Affecting many animals of one kind in one region simultaneously; widely diffused and rapidly spreading.

BT DISEASES

EPOXIDATION

BT *OXIDATION

EPOXY COATINGS

BT COATINGS

EPOXY COMPOSITES

(81/09) - Composite materials or structures in which the binding material is epoxy compound, reinforced with various kinds of fibers, cast, layered-up or molded in various shapes.

BT *COMPOSITE MATERIALS

NT GRAPHITE EPOXY COMPOSITES

EPOXY COMPOUNDS

BT *OXYGEN HETEROCYCLIC COMPOUNDS

NT OXETANES

EPOXY LAMINATES

BT *LAMINATES

EPOXY RESINS

BT *THERMOSETTING PLASTICS

EQUALIZATION**EQUATIONS**

UF SECULAR EQUATIONS

BT MATHEMATICS

NT BOLTZMANN EQUATION

*DIFFERENTIAL EQUATIONS

*EQUATIONS OF MOTION

EQUATIONS OF STATE

HUGONOT EQUATIONS

*INTEGRAL EQUATIONS

LANCHESTER EQUATIONS

LIOUVILLE EQUATION

MAXWELLS EQUATIONS

SIMULTANEOUS EQUATIONS

EQUATIONS OF MOTION

UF MOTION EQUATIONS

BT *EQUATIONS

NT NAVIER STOKES EQUATIONS

EQUATIONS OF STATE

UF STATE EQUATIONS

BT *EQUATIONS

EQUATORIAL ORBITS

BT *ORBITS

EQUATORIAL REGIONS

BT *TROPICAL REGIONS

EQUILIBRATORS

use STABILIZATION SYSTEMS

EQUILIBRIUM(GENERAL)

NT EQUILIBRIUM(PHYSIOLOGY)

EQUILIBRIUM(PHYSIOLOGY)BT EQUILIBRIUM(GENERAL)
PHYSIOLOGY**EQUINE ENCEPHALOMYELITIS VIRUS**

UF BORNA DISEASE

BT *GROUP A ARBOVIRUSES

NT EASTERN EQUINE

ENCEPHALOMYELITIS VIRUS

VENEZUELAN EQUINE

ENCEPHALOMYELITIS VIRUS

WESTERN EQUINE

ENCEPHALOMYELITIS VIRUS

EQUINES

UF BURROS

DONKEYS

BT *MAMMALS

NT HORSES

EQUIVALENT CIRCUITS

BT *CIRCUITS

ERASURE**ERBIUM**

BT *RARE EARTH ELEMENTS

- (3)TURBOJET INLET SCREENS
- (2)ENGINE CYLINDERS
- (2)ENGINE FUEL SYSTEMS COMPONENTS
- (3)CARBURETORS
 - (4)AIRCRAFT CARBURETORS
- (2)ENGINE MUFFLERS
- (2)ENGINE STARTERS
- (2)FLYWHEELS
- (2)IGNITION CIRCUITS
- (2)PISTON RINGS
- (2)PISTONS
- (1)GAS GENERATOR ENGINES
- (1)GAS TURBINES
- (1)HEAT ENGINES
 - (2)EXTERNAL COMBUSTION ENGINES
 - (3)STEAM ENGINES
- (1)INTERNAL COMBUSTION ENGINES
 - (2)COMPOUND ENGINES
 - (2)COMPRESSION IGNITION ENGINES
 - (3)DIESEL ENGINES
 - (2)ROTARY COMBUSTION ENGINES
 - (2)SPARK IGNITION ENGINES
- (1)JET ENGINES
 - (2)HYDROJET ENGINES
 - (3)HYDRODUCT ENGINES
 - (3)HYDROPULSE ENGINES
 - (3)HYDROTURBOJET ENGINES
 - (2)PULSEJET ENGINES
 - (3)HYDROPULSE ENGINES
 - (2)RAMJET ENGINES
 - (3)HYDRODUCT ENGINES
 - (3)RECOMBINATION RAMJET ENGINES
 - (3)ROCKET RAMJETS
 - (4)INTEGRAL ROCKET RAMJETS
 - (3)SUPERCHARGED EJECTOR RAMJET ENGINES
 - (3)SUPERSONIC COMBUSTION RAMJET ENGINES
 - (3)TURBORAMJET ENGINES
 - (3)WING RAMJET ENGINES
 - (2)TURBOJET ENGINES
 - (3)HYDROTURBOJET ENGINES
 - (3)TURBOFAN ENGINES
 - (4)HIGH BYPASS TURBOFANS
 - (4)LOW BYPASS TURBOFANS
 - (4)VARIABLE BYPASS TURBOFANS
 - (3)TURBOPROP ENGINES
 - (3)TURBORAMJET ENGINES
 - (3)TURBOSHAFT ENGINES
 - (3)VARIABLE CYCLE ENGINES
- (1)MARINE ENGINES
 - (2)SUBMARINE ENGINES
- (1)MULTIFUEL ENGINES
- (1)MULTIPULSE ENGINES
- (1)PISTON ENGINES
 - (2)RECIPROCATING ENGINES
 - (3)DIESEL ENGINES
 - (3)STEAM ENGINES
- (1)ROCKET ENGINES
 - (2)ARC JET ENGINES
 - (2)BOOSTER ROCKET ENGINES
 - (3)RECOVERABLE BOOSTER ENGINES
 - (2)CONTROLLABLE THRUST ROCKET ENGINES
 - (2)DUCTED ROCKETS
 - (2)ENGINE CLUSTERS
 - (2)FOURTH STAGE ENGINES
 - (2)HYBRID ROCKET ENGINES
 - (2)ION ENGINES
 - (2)LIQUID PROPELLANT ROCKET ENGINES
 - (3)CRYOGENIC ENGINES
 - (2)MOVABLE ROCKET ENGINES
 - (2)NOZZLELESS ROCKET ENGINES
 - (2)PLASMA ENGINES
 - (2)RESISTORJET ENGINES
 - (2)RETRO ROCKETS
 - (2)ROCKET RAMJETS
 - (3)INTEGRAL ROCKET RAMJETS
 - (2)SECOND STAGE ENGINES

- (2)SOLAR ROCKETS
- (2)SOLID PROPELLANT ROCKET ENGINES
 - (3)DUAL THRUST ROCKET ENGINES
 - (3)JATDS
 - (3)SEGMENTED ROCKET ENGINES
- (2)SUSTAINER ENGINES
- (2)THIRD STAGE ENGINES
- (2)THIXOTROPIC PROPELLANT ROCKET ENGINES
- (2)THRUSTERS
- (2)VERNIER ROCKET ENGINES
- (1)TANK ENGINES
- (1)TRACTOR ENGINES
- (1)VARIABLE CYCLE ENGINES

ENGRAVING

- (1)PHOTOENGRAVING

ENRICHMENT

- (1)REACTOR FUEL ENRICHMENT

ENTRAINMENT

- (1)AIR ENTRAINMENT

ENVIRONMENTS

- (1)AEROSPACE ENVIRONMENTS
- (2)SPACE ENVIRONMENTS
 - (3)DEEP SPACE
 - (3)INTERPLANETARY SPACE
 - (3)INTERSTELLAR SPACE
 - (3)OUTER SPACE
- (1)CONFINED ENVIRONMENTS
- (1)ELECTROMAGNETIC ENVIRONMENTS
- (1)INDUCED ENVIRONMENTS
- (1)LUNAR ENVIRONMENTS
- (1)OCEAN ENVIRONMENTS
 - (2)BATHYAL ZONES
 - (2)BENTHONIC ZONES
 - (3)ABYSSAL ZONES
 - (3)LITTORAL ZONES
- (2)EUPHOTIC ZONES

ENZYME PRECURSORS

- (1)ENZYMES
 - (2)ADENYL CYCLASE
 - (2)COENZYMES
 - (3)CYTOCHROME OXIDASE
 - (3)GLUTATHIONE
 - (2)COLLAGENASE
 - (2)DEHYDROGENASES
 - (3)LACTIC DEHYDROGENASE
 - (3)PHOSPHATE DEHYDROGENASE
 - (2)DEXTRANSUCRASE
 - (2)GLUCANASES
 - (2)HYDROLASES
 - (3)AMIDE HYDROLASES
 - (4)GLUTAMINASE
 - (4)PENICILLINASE
 - (4)UREASE
 - (3)ESTERASES
 - (4)CARBOXYLIC ESTER HYDROLASES
 - (5)CHOLINESTERASE
 - (6)ACETYLCHOLINESTERASE
 - (4)PHOSPHORIC MONOESTER HYDROLASES
 - (5)PHOSPHATASES
 - (6)ACID PHOSPHATASE
 - (3)GLYCOSIDE HYDROLASES
 - (4)CELLULASE
 - (4)GLYCOSIDASES
 - (4)MURAMIDASE
 - (3)PENICILLIN ACYLASE
 - (3)PEPTIDE HYDROLASES
 - (4)CHYMOTRYPSIN
 - (4)CLOSTRIDIOPEPTIDASE A
 - (4)PAPAIN
 - (4)PLASMIN
 - (4)RENIN

ENTOMOLOGY
 ENTOMOLOGY
 ENTRAINMENT
 AIR ENTRAINMENT
 ENTRAINMENT
 ENTROPY
 ENTROPY
 ENTRY
 ATMOSPHERE ENTRY
 WATER ENTRY
 ENVELOPE
 ENVELOPE (SPACE)
 FLIGHT ENVELOPE
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 ENVIRONMENTAL IMPACT
 ENVIRONMENTAL IMPACT
 STATEMENTS
 ENVIRONMENTAL MANAGEMENT
 ENVIRONMENTAL PROTECTION
 ENVIRONMENTAL PSYCHOLOGISTS
 ENVIRONMENTAL TESTS
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 ELECTROMAGNETIC ENVIRONMENTS
 ENVIRONMENTS
 INDUCED ENVIRONMENTS
 LUNAR ENVIRONMENTS
 OCEAN ENVIRONMENTS
 SPACE ENVIRONMENTS
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 ENZOOTIC
 ENZYME
 ENZYME CHEMISTRY
 ENZYME INHIBITORS
 ENZYME PRECURSORS
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 ENZYMES
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 EOSINOPHILS
 EPHEMERIDES
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 EPICENTERS
 EPICENTERS
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 EPIDEMIOLOGY
 EPIDERMIS
 EPIDERMIS
 EPIDERMIS
 EPILEPSY
 EPILEPSY
 EPIMERASES
 RACEMASES AND EPIMERASES
 EPINEPHRINE
 EPINEPHRINE
 EPITAXIAL
 EPITAXIAL GROWTH
 EPITHELIUM
 EPITHELIUM
 EPIZOOTIC
 EPIZOOTIC
 EPOXIDATION
 EPOXIDATION
 EPOXY
 EPOXY COATINGS
 EPOXY COMPOSITES
 EPOXY COMPOUNDS
 EPOXY LAMINATES
 EPOXY RESINS
 GRAPHITE EPOXY COMPOSITES
 EQUALIZATION
 EQUALIZATION
 EQUATION

ARRHENIUS EQUATION
 BOLTZMANN EQUATION
 LIOUVILLE EQUATION
 POISSON EQUATION
 RICCATI EQUATION
 SCHRÖDINGER EQUATION
 EQUATIONS
 DIFFERENCE EQUATIONS
 DIFFERENTIAL EQUATIONS
 EQUATIONS
 EQUATIONS OF MOTION
 EQUATIONS OF STATE
 FOKKER PLANCK EQUATIONS
 HUGONOT EQUATIONS
 HYPERBOLIC DIFFERENTIAL
 EQUATIONS
 INTEGRAL EQUATIONS
 LANCHESTER EQUATIONS
 LINEAR ALGEBRAIC EQUATIONS
 LINEAR DIFFERENTIAL EQUATIONS
 MAXWELLS EQUATIONS
 NAVIER STOKES EQUATIONS
 NONLINEAR ALGEBRAIC EQUATIONS
 NONLINEAR DIFFERENTIAL
 EQUATIONS
 PARTIAL DIFFERENTIAL EQUATIONS
 QUADRATIC EQUATIONS
 QUARTIC EQUATIONS
 SIMULTANEOUS EQUATIONS
 VOLTERRA EQUATIONS
 WAVE EQUATIONS
 EQUATORIAL
 EQUATORIAL ORBITS
 EQUATORIAL REGIONS
 EQUILIBRIUM
 ACID BASE EQUILIBRIUM
 CHEMICAL EQUILIBRIUM
 EQUILIBRIUM (GENERAL)
 EQUILIBRIUM (PHYSIOLOGY)
 FROZEN EQUILIBRIUM FLOW
 SHIFTING EQUILIBRIUM FLOW
 EQUINE
 EASTERN EQUINE
 ENCEPHALOMYELITIS VIRUS
 EQUINE ENCEPHALOMYELITIS VIRUS
 VENEZUELAN EQUINE
 ENCEPHALOMYELITIS
 VENEZUELAN EQUINE
 ENCEPHALOMYELITIS VIRUS
 WESTERN EQUINE
 ENCEPHALOMYELITIS VIRUS
 EQUINES
 EQUINES
 EQUIPMENT
 ABSORBERS (EQUIPMENT)
 ACOUSTIC EQUIPMENT
 AIR CONDITIONING EQUIPMENT
 AIR FORCE EQUIPMENT
 AIR POLLUTION CONTROL
 EQUIPMENT
 AIR TRANSPORTABLE EQUIPMENT
 AIRCRAFT EQUIPMENT
 ARMY EQUIPMENT
 BALLOON EQUIPMENT
 BOMB AUXILIARY EQUIPMENT
 BOOMS (EQUIPMENT)
 BRUSHLESS ELECTRICAL EQUIPMENT
 CANADIAN EQUIPMENT
 CHECKOUT EQUIPMENT
 CHLORINATION EQUIPMENT
 COAST GUARD EQUIPMENT
 COMMERCIAL EQUIPMENT
 COMMUNICATION EQUIPMENT
 CONSTRUCTION EQUIPMENT
 COOLING AND VENTILATING
 EQUIPMENT

DAIRY EQUIPMENT
 DATA PROCESSING EQUIPMENT
 DECK SAFETY EQUIPMENT
 DECONTAMINATION EQUIPMENT
 DENTAL EQUIPMENT
 DIAGNOSTIC EQUIPMENT
 DISPOSABLE EQUIPMENT
 DISTANCE MEASURING EQUIPMENT
 DIVER EQUIPMENT
 DRYDOCK EQUIPMENT
 EARTH HANDLING EQUIPMENT
 ELECTRICAL EQUIPMENT
 ELECTRONIC EQUIPMENT
 ELECTRONIC PHOTOFLASH
 EQUIPMENT
 FACSIMILE EQUIPMENT
 FIELD EQUIPMENT
 GOVERNMENT FURNISHED EQUIPMENT
 GROUND SUPPORT EQUIPMENT
 HYDRAULIC EQUIPMENT
 INDUSTRIAL EQUIPMENT
 INFRARED EQUIPMENT
 JETTISONABLE EQUIPMENT
 KITCHEN EQUIPMENT AND SUPPLIES
 LABORATORY EQUIPMENT
 LIGHTING EQUIPMENT
 LINE THROWING EQUIPMENT
 LONG PATH INFRARED EQUIPMENT
 MAINTENANCE EQUIPMENT
 MANPORTABLE EQUIPMENT
 MARINE CORPS EQUIPMENT
 MARINE SAFETY EQUIPMENT
 MATERIALS HANDLING EQUIPMENT
 MEDICAL EQUIPMENT
 MICROWAVE EQUIPMENT
 MILITARY EQUIPMENT
 MINELAYING EQUIPMENT
 MINESWEEPING EQUIPMENT
 MINIATURE ELECTRICAL EQUIPMENT
 MINIATURE ELECTRONIC EQUIPMENT
 MOUNTAIN CLIMBING EQUIPMENT
 NAVAL EQUIPMENT
 OCEANOGRAPHIC EQUIPMENT
 OFF THE SHELF EQUIPMENT
 OFFICE EQUIPMENT AND SUPPLIES
 OPTICAL EQUIPMENT
 OPTICAL EQUIPMENT COMPONENTS
 OXYGEN EQUIPMENT
 PANORAMIC EQUIPMENT
 PHOTOGRAPHIC EQUIPMENT
 PHOTOGRAPHIC PROCESSING
 EQUIPMENT
 PNEUMATIC EQUIPMENT
 PORTABLE EQUIPMENT
 POWER EQUIPMENT
 PRINTING EQUIPMENT
 PROCESSING EQUIPMENT
 PROTECTIVE EQUIPMENT
 RADAR EQUIPMENT
 RADIO EQUIPMENT
 RENTAL EQUIPMENT
 RESCUE EQUIPMENT
 RESERVE EQUIPMENT
 REUSABLE EQUIPMENT
 ROAD BUILDING EQUIPMENT
 RUGGEDIZED EQUIPMENT
 RUSSIAN EQUIPMENT
 SAFETY EQUIPMENT
 SEA RESCUE EQUIPMENT
 SEMI-PORTABLE EQUIPMENT
 SHIP AUXILIARY EQUIPMENT
 SONAR EQUIPMENT
 STANDBY EQUIPMENT
 SUBMARINE EQUIPMENT
 SUBMINIATURE ELECTRICAL
 EQUIPMENT

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INTERNATIONAL ENERGY

Subject Thesaurus

1990

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A



ENERGY
TECHNOLOGY
DATA
EXCHANGE

| | | |
|---------------|---------------------------------|---------------------------------|
| Descriptor | DISTRICT HEATING [01] | Indicates valid INIS descriptor |
| | DA January 1975 | |
| Broader Term | BT1 Heating | |
| Narrower Term | NT1 Geothermal District Heating | Date entered into thesaurus |
| | RT Central Heating Plants | |
| | RT Co-Generation | |
| | RT DEUS | |
| Related Term | RT Dual-Purpose Power Plants | |
| | RT Geothermal Heating Systems | |
| | RT Heat Distribution Systems | |
| | RT Hot Water | |
| | RT Thermal Transmission ICES | |

DISTRIBUTION [01]

(For energy distribution use
ENERGY SPECTRA.)

Scope Note

| | |
|---|-----------------------------------|
| USED FOR indicating multiple USE references | UF+ <i>Inclusive Distribution</i> |
| | NT1 Angular Distribution |
| | NT1 Spatial Distribution |
| | NT1 Tissue Distribution |
| | RT Allocations |
| | RT Asymmetry |
| | RT Boltzmann Statistics |
| | RT Gauss Function |
| | RT Gaussian Processes |
| | RT Isotropy |
| | RT Particle Kinematics |
| | RT Symmetry |

| | | |
|---|-------------------------------|----------------|
| Forbidden Term with multiple USE references | <i>Inclusive Distribution</i> | (Note italics) |
| | USE Distribution | |
| | AND Inclusive Interactions | |

HELIOS FACILITY

| | |
|------------|--|
| | DA July 1979 |
| | RT Carbon Dioxide Lasers |
| | RT Laser Fusion Reactors |
| Definition | DEF A 10 kJ, 8-beam, CO ₂ laser facility at Los Alamos for laser fusion experiments |

ACTINIDE COMPOUNDS[01]

| | |
|--|-----------------------------|
| See NT1 descriptor for narrower terms | *NT1 Actinium Compounds |
| | *NT1 Americium Compounds |
| | *NT1 Berkelium Compounds |
| | *NT1 Californium Compounds |
| | *NT1 Curium Compounds |
| | *NT1 Einsteinium Compounds |
| | *NT1 Fermium Compounds |
| | *NT1 Lawrencium Compounds |
| | *NT1 Mendeleevium Compounds |
| | *NT1 Neptunium Compounds |
| | *NT1 Nobelium Compounds |
| | *NT1 Plutonium Compounds |
| | *NT1 Protactinium Compounds |
| | *NT1 Thorium Compounds |
| | *NT1 Uranium Compounds |

Subject Thesaurus

A-1 Reactor (Bohunice)
DA December 1, 1974
USE Bohunice A-1 Reactor

A-1 Reactor (Calder Hall)
DA December 1, 1974
USE Calder Hall A-1 Reactor

A-2 Reactor (Bohunice)
DA December 1, 1974
USE Bohunice A-2 Reactor

A-2 Reactor (Calder Hall)
DA December 1, 1974
USE Calder Hall A-2 Reactor

→ **A0-980 MESONS [01]**
(Prior to January 1988 this concept was indexed by Delta-966 Resonances.)
DA January 25, 1988
UF *Delta-966 Resonances*
BT1 Scalar Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

A1-1070 Resonances
(Prior to January 1988 this was a valid descriptor.)
DA December 1, 1974
USE A1-1270 Mesons

→ **A1-1270 MESONS [01]**
(Prior to January 1988 this concept was indexed by A1-1070 RESONANCES.)
DA January 29, 1988
UF *A1-1070 Resonances*
BT1 Axial Vector Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

A-15 Compounds
DA May 2, 1979
USE Beta-W Lattices

A2-1310 Resonances
(Prior to January 1988 this was a valid descriptor.)
DA December 1, 1974
USE A2-1320 Mesons

→ **A2-1320 MESONS [01]**
(Prior to January 1988 this concept was indexed by A2-1310 RESONANCES.)
DA January 29, 1988
UF *A2-1310 Resonances*
BT1 Tensor Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

A2H-1320 Resonances
(Prior to March 1988 this was a valid descriptor.)
DA December 1, 1974
USE Mesons

A2L-1280 Resonances
(Prior to March 1988 this was a valid descriptor.)

DA December 1, 1974
USE Mesons

→ **A3-2050 MESONS [01]**
DA February 1, 1988
BT1 Tensor Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

A3 Resonances
DA December 1, 1974
USE P12-1680 Mesons

A4-1960 Resonances
(Prior to February 1988 this was a valid descriptor.)
DA March 26, 1975
USE A4-2040 Mesons

→ **A4-2040 MESONS [01]**
(Prior to February 1988 this concept was indexed by A4-1960 RESONANCES.)
DA February 1, 1988
UF *A4-1960 Resonances*
BT1 Tensor Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

→ **A6-2450 MESONS [01]**
DA February 1, 1988
BT1 Tensor Mesons
BT2 Mesons
BT3 Bosons
BT3 Hadrons
BT4 Elementary Particles

A 285 Steel
DA December 20, 1978
USE Steel-ASTM-A285

A-BOMB SURVIVORS [01]
DA December 1, 1974
BT1 Human Populations
BT2 Populations
RT Delayed Radiation Effects
RT Epidemiology
RT Hiroshima
RT Little Boy
RT Nagasaki

A CENTERS [01]
DA February 6, 1975
BT1 Color Centers
BT2 Vacancies
BT3 Point Defects
BT4 Crystal Defects
BT5 Crystal Structure

A CODES [01]
DA December 1, 1974
BT1 Computer Codes

A Resonances
(Prior to March 1988 this was a valid descriptor. For A3 resonances use P12-1680 MESONS.)
DA December 1, 1974
USE Mesons

AABO CYCLOTRON [01]
DA December 1, 1974
UF *Turku Cyclotron*

BT1 Isochronous Cyclotrons
BT2 Cyclotrons
BT3 Cyclic Accelerators
BT4 Accelerators

AAEC [01]
(Australian Atomic Energy Commission, abolished on 27 April 1987 and replaced by ANSTO.)
DA April 28, 1978
UF *Australian Atomic Energy Commission*
BT1 Australian Organizations
BT2 National Organizations
RT ANSTO

AAF
DA September 23, 1985
USE Acetylaminofluorenes

AAPS
DA May 2, 1979
UF *Advanced Automotive Propulsion Systems*
RT Automotive Industry
RT Electric-Powered Vehicles
RT Gas Turbine Engines
RT Internal Combustion Engines
RT Stirling Engines

AARR REACTOR [01]
DA December 1, 1974
UF *Argonne Tank Research and Test Reactor-AARR*
BT1 Research Reactors
BT2 Research and Test Reactors
BT3 Reactors
BT1 Tank Type Reactors
BT2 Reactors
BT1 Water Cooled Reactors
BT2 Reactors
BT1 Water Moderated Reactors
BT2 Reactors

ABANDONED SHAFTS
DA December 22, 1977
UF *Disused Mineshafts*
BT1 Mine Shafts
BT2 Shaft Excavations
RT Coal Mines
RT Mines

ABANDONED SITES [01]
DA October 23, 1978
RT Land Reclamation

ABANDONED WELLS
DA August 24, 1977
BT1 Wells
RT Natural Gas Wells
RT Oil Wells
DEF An oil or gas well abandoned because its yield has fallen below that necessary for profitable production.

Abashian-Booth-Crowe Effect
DA November 9, 1977
USE ABC Effect

ABC EFFECT [01]
DA November 10, 1977
UF *Abashian-Booth-Crowe Effect*
RT Interactions
RT Missing-Mass Spectra
RT Pions

RT Aquatic Organisms
RT Babcock and Wilcox-DuPont Process
RT CE Entrained Fuel Process
RT Combined-Cycle FW Process
RT Dow Gasification Process
RT Extraction Apparatuses
RT Impingement
RT Solvent Extraction

Entrainment Separators
DA March 8, 1977
USE Mist Extractors

ENTROPY [01]

DA December 1, 1974
BT1 Thermodynamic Properties
BT2 Physical Properties
RT Energy Quality
RT Enthalpy
RT H Theorem
RT Isentropic Processes
RT Thermodynamics

ENTRY CONTROL SYSTEMS [01]

DA July 8, 1982
UF Access Denial Systems
BT1 Control Systems
RT Physical Protection
RT Security
DEF Systems for controlling access to general and critical areas of a nuclear facility.

Envelope Houses
DA June 13, 1981
USE Double Envelope Buildings

ENVIRONMENT [01]

DA December 1, 1974
NT1 Biosphere
RT Accidents
RT Clean Air Act
RT Contamination
RT Controlled Atmospheres
RT Earth Atmosphere
RT Ecosystems
RT Environmental Effects
RT Environmental Exposure Pathway
RT Environmental Impact Statements
RT Environmental Impacts
RT Environmental Policy
RT Environmental Transport
RT Fallout Deposits
RT Habitat
RT Hydrosphere
RT National Environmental Policy Act
RT Nature Reserves
RT Pollution
RT Prevention of Significant Deterioration
RT Preventive Medicine
RT Radiation Protection
RT Radionuclide Migration
RT Reactor Sites
RT Regional Analysis
RT Site Selection
RT Thermal Comfort
RT Wilderness Protection Acts

Environmental Concentration
DA June 14, 1984
USE Ecological Concentration

ENVIRONMENTAL EFFECTS

(This descriptor is to be used only when the actual effects on the environment are discussed.)

DA April 8, 1975
RT Environment
RT Environmental Impact Statements
RT Environmental Impacts
RT Environmental Policy
RT Land Pollution
RT Thermal Pollution
RT Water Pollution

ENVIRONMENTAL ENGINEERING [01]

DA December 1, 1974
BT1 Engineering
RT Aesthetics
RT Air Conditioning
RT Pollution Control Equipment

ENVIRONMENTAL EXPOSURE

DA September 21, 1984
RT Air Pollution
RT Carcinogens
RT Ionizing Radiations
RT Land Pollution
RT Man
RT Mutagens
RT Water Pollution

Environmental Exposure Chambers

DA October 20, 1977
USE Exposure Chambers

ENVIRONMENTAL EXPOSURE PATHWAY [01]

DA October 1, 1975
RT Bioinvasion
RT Biological Availability
RT Biological Models
RT Ecosystems
RT Environment
RT Food Chains
RT Intrusion

ENVIRONMENTAL IMPACT STATEMENTS [01]

DA January 30, 1975
BT1 Document Types
RT Environment
RT Environmental Effects
RT Environmental Impacts
RT National Environmental Policy Act

ENVIRONMENTAL IMPACTS [01]

(This descriptor is to be used to describe the possible effects on the environment from a proposed project.)

DA January 31, 1977
RT Aesthetics
RT Environment
RT Environmental Effects
RT Environmental Impact Statements
RT Environmental Policy
RT Environmental Quality
RT Nuclear Winter
RT SEEDIS

ENVIRONMENTAL MATERIALS [01]

(Use only for unspecified samples from the environment. See also specific environmental materials.)

DA January 23, 1978
UF Materials (Environmental)
BT1 Materials
RT Air
RT Atmospheric Precipitations
RT Biological Materials
RT Minerals
RT Monitoring
RT Ores
RT Rocks
RT Sediments
RT Soils
RT Water

ENVIRONMENTAL MEASUREMENTS LABORATORY

DA July 20, 1984
UF EML
BT1 US DOE
BT2 US Organizations
BT3 National Organizations

Environmental Parks
DA August 8, 1978
USE Nature Reserves

ENVIRONMENTAL POLICY [01]

DA February 14, 1978
SF Policy

NT1 Water Policy
RT Clean Air Act
RT Economics
RT Environment
RT Environmental Effects
RT Environmental Impacts
RT Environmental Quality
RT National Environmental Policy Act
RT Planning
RT Superfund

Environmental Protection Agency
DA December 1, 1974
USE US EPA

ENVIRONMENTAL QUALITY

DA September 6, 1979
NT1 Air Quality
NT1 Water Quality
RT Environmental Impacts
RT Environmental Policy
RT Quality of Life

Environmental Temperature
DA March 22, 1976
USE Ambient Temperature

ENVIRONMENTAL TRANSPORT [01]

DA November 1, 1976
SF Heat Dissipation
SF Transport (Environmental)
BT1 Mass Transfer
NT1 Long-Range Transport
NT1 Radionuclide Migration
NT1 Runoff
RT Air-Biosphere Interactions
RT Air-Water Interactions
RT Carbon Sources
RT Downwelling
RT Ecological Concentration
RT Environment
RT Leachates
RT Radiocological Concentration
RT Sinks
RT Transfrontier Contamination

ENZYMATIC HYDROLYSIS

DA March 22, 1976
BT1 Hydrolysis
BT2 Lysis
BT2 Solvolysis
BT3 Decomposition
BT4 Chemical Reactions
RT Acid Hydrolysis
RT Alkaline Hydrolysis
RT Biodegradation
RT Cellulase
RT Cellulolytic Activity
RT Clostridium Thermocellum
RT Enzymes
RT Hydrolases
RT Pellicularia
RT Thermoactinomyces
RT Thielavia

ENZYME ACTIVITY [01]

DA August 8, 1978
NT1 Cellulolytic Activity
RT Biochemical Reaction Kinetics
RT Chemical Reaction Kinetics
RT Enzymes
RT Metabolic Activation
RT Metabolism
RT Structure-Activity Relationships

ENZYME IMMUNOASSAY [01]

DA February 22, 1985
BT1 Immunoassay
BT2 Bioassay
RT Antibodies
RT Antigen-Antibody Reactions
RT Antigens
RT CPB
RT Enzymes

ENZYME INDUCTION

DA November 19, 1985
BT1 Gene Regulation
RT Biosynthesis
RT Enzymes

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NASA SP-7064
(Vol. 1)

NASA THESAURUS

**VOLUME 1
HIERARCHICAL LISTING
1988 EDITION**



**National Aeronautics
and Space Administration**

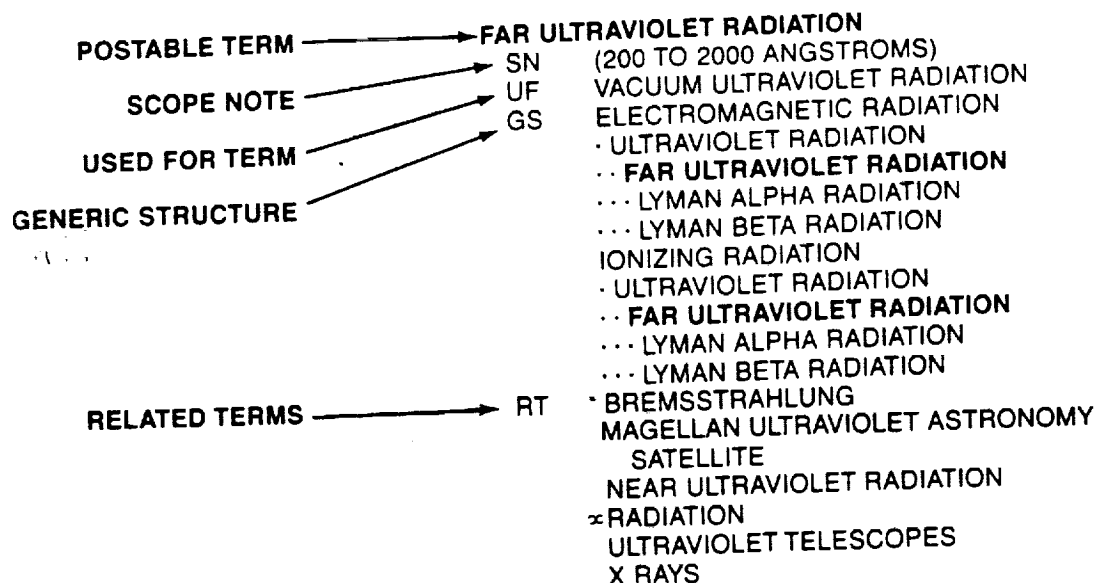
**Scientific and Technical
Information Division**

1988

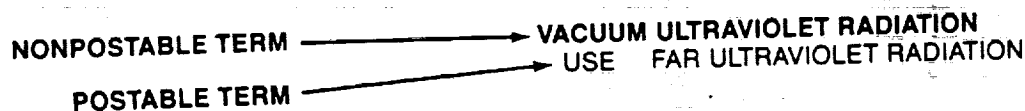
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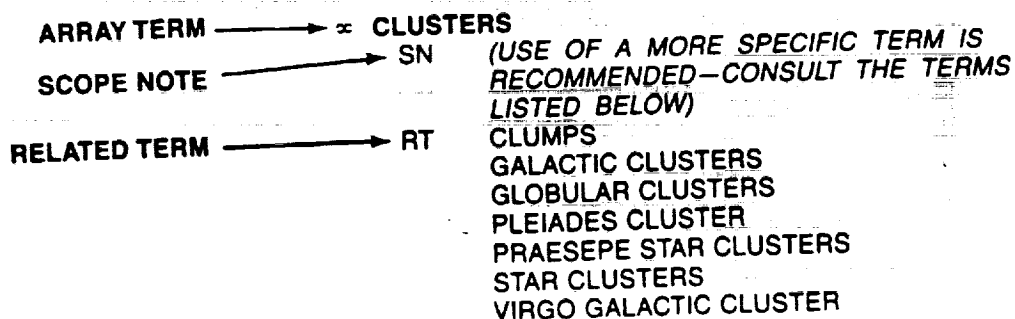
TYPICAL HIERARCHICAL LISTING ENTRY



TYPICAL USE CROSS REFERENCE ENTRY



TYPICAL ARRAY TERM ENTRY



ENRICO FERMI ATOMIC POWER-(CONT.)
 NUCLEAR POWER PLANTS
 ENRICO FERMI ATOMIC POWER PLANT
 NUCLEAR ELECTRIC POWER GENERATION
 NUCLEAR POWER PLANTS
 ENRICO FERMI ATOMIC POWER PLANT
 RT BREEDER REACTORS
 FAST NUCLEAR REACTORS
 LIQUID METAL COOLED REACTORS
 POWER PLANTS

ENSKOG-CHAPMAN THEORY
 USE CHAPMAN-ENSKOG THEORY

ENSTATITE
 GS CHALCOGENIDES
 OXIDES
 PYROXENES
 ENSTATITE
 MAGNESIUM COMPOUNDS
 ENSTATITE
 MINERALS
 PYROXENES
 ENSTATITE
 SILICON COMPOUNDS
 SILICATES
 PYROXENES
 ENSTATITE
 RT CHONDRULE
 IGNEOUS ROCKS
 REGOLITH
 ROCKS
 SOILS

ENTROPHY
 USE VORTICITY

ENTERPRISE (ORBITER)
 UF SPACE SHUTTLE ORBITER 101
 GS MANNED SPACECRAFT
 SPACE SHUTTLE ORBITERS
 ENTERPRISE (ORBITER)
 REENTRY VEHICLES
 RECOVERABLE SPACECRAFT
 REUSABLE SPACECRAFT
 SPACE SHUTTLE ORBITERS
 ENTERPRISE (ORBITER)
 RT MANNED SPACE FLIGHT
 SPACECRAFT

ENTHALPY
 UF HEAT CONTENT
 GS HEAT
 ENTHALPY
 GIBBS FREE ENERGY
 HEAT OF DISSOCIATION
 HEAT OF FORMATION
 HEAT OF SOLUTION
 LATENT HEAT
 HEAT OF FUSION
 HEAT OF VAPORIZATION
 THERMODYNAMIC PROPERTIES
 ENTHALPY
 GIBBS FREE ENERGY
 HEAT OF DISSOCIATION
 HEAT OF FORMATION
 HEAT OF SOLUTION
 LATENT HEAT
 HEAT OF FUSION
 HEAT OF VAPORIZATION
 RT ADIABATIC CONDITIONS
 DRYING
 ENERGY
 ENTHALPY
 FREE ENERGY
 GIBBS-HELMHOLTZ EQUATIONS
 HEAT MEASUREMENT
 JOULE-THOMSON EFFECT
 MOLLIER DIAGRAM
 SPECIFIC HEAT
 THERMOCHEMISTRY
 THERMODYNAMICS

ENTHALPY-ENTROPY DIAGRAMS
 USE MOLLIER DIAGRAM

ENTIRE FUNCTIONS
 UF INTEGRAL FUNCTIONS
 GS ANALYSIS (MATHEMATICS)
 COMPLEX VARIABLES
 ANALYTIC FUNCTIONS
 ENTIRE FUNCTIONS

ENTIRE FUNCTIONS-(CONT.)
 FUNCTIONS (MATHEMATICS)
 ANALYTIC FUNCTIONS
 ENTIRE FUNCTIONS

ENTOMOLOGY
 RT INSECTICIDES
 INSECTS
 SCIENCE
 ZOOLOGY

ENTRAINMENT
 RT AERATION
 AEROSOLS
 BLOWING
 COANDA EFFECT
 DISPERSING
 SPRAYING
 SUSPENDING (MIXING)

ENTRANCES
 RT CURTAINS
 DOORS
 INTAKE SYSTEMS
 THRESHOLDS
 TRANSFER TUNNELS

ENTRAPMENT
 RT ACCUMULATORS
 CONFUSION
 ESCAPE (ABANDONMENT)
 RADIATION BELTS
 TANGLING
 TRAPS

ENTROPY
 GS THERMODYNAMIC PROPERTIES
 ENTROPY
 RT CROCCO METHOD
 ENERGY
 ENTHALPY
 HEAT
 MAXIMUM ENTROPY METHOD
 MOLLIER DIAGRAM
 NONISENTROPICITY
 SHANNON-WIENER MEASURE
 TEPHIGRAMS
 THERMOCHEMISTRY
 THERMODYNAMICS

ENTROPY (STATISTICS)
 GS ENTROPY (STATISTICS)
 MAXIMUM ENTROPY METHOD
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ENTRY
 SN (USE OF A MORE SPECIFIC TERM IS RECOMMENDED-CONSULT THE TERMS LISTED BELOW)
 RT ATMOSPHERIC ENTRY
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 FLIGHT CONTROL
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ENUMERATION
 RT COUNTING
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 SN (USE OF A MORE SPECIFIC TERM IS RECOMMENDED-CONSULT THE TERMS LISTED BELOW)
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 COASTAL WATER
 CONTAMINANTS
 CONTAMINATION
 DEBRIS
 DEFORESTATION
 EFFECTS
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 METABOLIC WASTES
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 SEWAGE
 SOIL EROSION
 THERMAL POLLUTION
 WASTE DISPOSAL
 WASTES
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 WATER RESOURCES
 WETLANDS
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ENVIRONMENT MANAGEMENT
 GS MANAGEMENT
 ENVIRONMENT MANAGEMENT
 RT CONSERVATION
 EARTH RESOURCES
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 LAND MANAGEMENT
 LAND USE
 MAN ENVIRONMENT INTERACTIONS
 RESOURCES MANAGEMENT
 WATER MANAGEMENT
 WATER RESOURCES

ENVIRONMENT MODELS
 GS MODELS
 ENVIRONMENT MODELS
 RT ATMOSPHERIC MODELS
 EXOBIOLOGY
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ENVIRONMENT POLLUTION
 GS POLLUTION
 ENVIRONMENT POLLUTION
 AIR POLLUTION
 GLOBAL AIR POLLUTION
 INDOOR AIR POLLUTION
 WATER POLLUTION
 OIL POLLUTION
 RT AEROBIOLOGY
 AEROSOLS
 AIR SAMPLING
 CLEAN ENERGY
 EARTH RESOURCES
 ENVIRONMENTAL MONITORING
 ENVIRONMENTAL SURVEYS
 HUMAN WASTES
 METABOLIC WASTES
 NOISE POLLUTION
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 POLLUTION MONITORING
 POLLUTION TRANSPORT
 RADIOACTIVE WASTES
 THERMAL POLLUTION
 WASTE DISPOSAL

ENVIRONMENT PROTECTION
 GS PROTECTION
 ENVIRONMENT PROTECTION
 RT AIR POLLUTION
 CENTRAL ATLANTIC REGIONAL ECOLOGICAL TEST SITE
 EFFLUENTS
 ENVIRONMENTAL MONITORING
 POLLUTION
 RADIOACTIVE WASTES
 WASTE DISPOSAL
 WATER POLLUTION

ENVIRONMENT SIMULATION
 GS SIMULATION
 ENVIRONMENT SIMULATION
 ACOUSTIC SIMULATION

89N 13298

NASA SP-7064
(Vol. 2)

NASA THESAURUS

**VOLUME 2
ACCESS VOCABULARY
1988 EDITION**



**National Aeronautics
and Space Administration**

**Scientific and Technical
Information Division**

1988

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USE LANDSAT F
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USE PLANET EPHEMERIDES
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USE GRAPHITE-EPOXY COMPOSITES
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- EPOXY MATRIX COMPOSITES**
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USE PHENOLIC EPOXY RESINS
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USE BERNOULLI THEOREM
- Equation, Bethe-Salpeter
USE BETHE-SALPETER EQUATION
- Equation, Blasius
USE BLASIIUS EQUATION
- Equation, Boltzmann Transport
USE BOLTZMANN TRANSPORT EQUATION
- Equation, Boltzmann-Vlasov
USE BOLTZMANN-VLASOV EQUATION
- Equation, Born-Mayer
USE BORN APPROXIMATION
- Equation, Brillouin-Wigner
USE BRILLOUIN-WIGNER EQUATION
- Equation, Burger
USE BURGER EQUATION
- Equation, Chandrasekhar
USE CHANDRASEKHAR EQUATION
- Equation, Chaplygin
USE CHAPLYGIN EQUATION
- Equation, Continuity
USE CONTINUITY EQUATION
- Equation, Diophantine
USE DIOPHANTINE EQUATION

TYPICAL ACCESS VOCABULARY ENTRIES

Nonpostable term in natural language order.
Postable term reference.

Air Density Explorer A
USE EXPLORER 19 SATELLITE

Pseudoterms (permutations) derived from non-postable multiword term. Postable term reference follows USE.

A, Air Density Explorer
USE EXPLORER 19 SATELLITE

Density Explorer A, Air
USE EXPLORER 19 SATELLITE

Explorer A, Air Density
USE EXPLORER 19 SATELLITE

Embedded term.

BIOGEOCHEMISTRY

Pseudoterms (permutations) derived from embedded term.

Chemistry, Biogeo
USE BIOGEOCHEMISTRY

Geochemistry, Bio
USE BIOGEOCHEMISTRY

Postable multiword term.

APOLLO SOYUZ TEST PROJECT

Pseudoterms derived from multiword term.

Project, Apollo Soyuz Test
USE APOLLO SOYUZ TEST PROJECT

Soyuz Test Project, Apollo
USE APOLLO SOYUZ TEST PROJECT

Test Project, Apollo Soyuz
USE APOLLO SOYUZ TEST PROJECT

Typical OTHER WORD entry (abbreviation)
with postable term reference.

MA
USE MASSACHUSETTS

Typical OTHER WORD entry (chemical symbol)
with postable term reference.

Zn
USE ZINC

89N 13301

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(Vol. 3)

NASA THESAURUS

VOLUME 3
DEFINITIONS
1988 EDITION



National Aeronautics
and Space Administration

Scientific and Technical
Information Division

1988

INTRODUCTION

Definitions are given for most terms added to the *NASA Thesaurus* since 1976 as well as for many earlier terms. Definitions of more common or general scientific terms are given a NASA slant if one exists. Certain terms are not defined as a matter of policy: common place names, chemical elements, specific models of computers, and nontechnical terms. Other terms lack definitions because the *NASA Thesaurus* predates by a number of years the systematic effort to define terms. Nevertheless, definitions of older terms are continually being added.

The following data are provided for each definition: term in uppercase/lowercase form, definition *per se*, source, and year the term (not the definition) was added to the *NASA Thesaurus*. The NASA History Office is the authority for capitalization of NASA names. USE cross references from the *NASA Thesaurus* are also included in uppercase/lowercase form.

SOURCES OF DEFINITIONS

Definitions with no source given were constructed by lexicographers at the NASA Scientific and Technical Information (STI) Facility, who rely on the following sources for their information: experts in the field, literature searches from the NASA STI database, and specialized references, including those listed below.

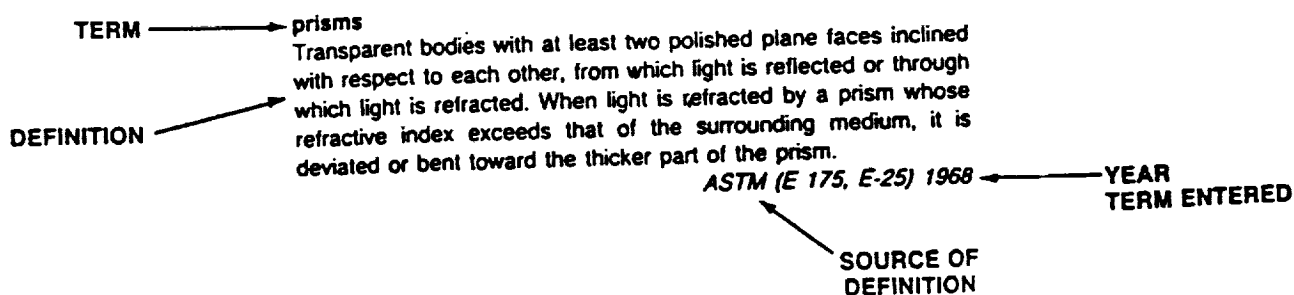
ASTM. *Compilation of ASTM Standard Definitions*, 6th edition. Philadelphia, PA, ASTM, 1986. Copyright, the American Society for Testing and Materials (ASTM). All rights reserved. Used with the permission of ASTM. Two ASTM sources are distinguished: standards are identified by an alphanumeric designation with no hyphen; committees are identified by an alphanumeric designation with a hyphen. The original definitions appeared in the *Annual Book of ASTM Standards*.

DOE. *Energy Data Base Subject Thesaurus* (DOE/TIC-7000-R7). Oak Ridge, TN, Department of Energy, 1987.

SP-7. *Dictionary of Technical Terms for Aerospace Use*, NASA SP-7. Washington, DC, NASA, 1965.

In some cases, definitions used from these sources have been subjected to editorial alterations, such as making a definition agree in number with the NASA form of the term.

TYPICAL TERM DEFINITION ENTRY



ENTROPY

entropy

A measure of the extent to which the energy of a system is unavailable. *SP-7 1968*

entropy (statistics)

A factor or quantity that is a function of a mechanical system and is equal to the logarithm of the probability of the particular arrangement in that state. *1980*

entry guidance (STS)

The precise steering commands for trajectory from initial penetration of the earth's atmosphere until the terminal area guidance is activated at an earth-relative speed (about 2500 fps). *1980*

environmental chambers

Use test chambers

environmental chemistry

Collective term comprising the complex chemical relationships involving the atmosphere, climatology, air and water pollution, fuels, pesticides, energy, biochemistry, geochemistry, etc. *1980*

environmental temperature

Use ambient temperature

environments

External conditions or the sum of such conditions, in which pieces of equipment, living organisms, or systems operate as in temperature environment, vibration environment, or space environment. Environments are usually specified by a range of values, and may be either natural or artificial. *SP-7 1968*

eosinophils

A type of white blood cell or leukocyte which stains a red color with eosin stain; normally about 2 to 3 percent of white cells in the blood but tending to decrease during stressful situations and thus usable as an index for stress. *SP-7 1968*

ephemerides

Periodical publications tabulating the predicted positions of celestial bodies at regular intervals, such as daily, and containing other data of interest to astronomers. A publication giving similar information useful to a navigator is called an almanac. *SP-7 1968*

ephemeris time

The uniform measure of time defined by the laws of dynamics and determined in principle from the orbital motions of the planets, specifically the orbital motion of the earth as represented by Newcomb's Tables of the Sun. *SP-7 1968*

epitaxy

The oriented growth of a crystalline substance on a substrate of the same or different crystalline substance. *ASTM (F 127, F-1) 1968*

epoxy matrix composites

High strength compositions consisting of epoxy resin and a reinforcing matrix of filaments or fibers of glass, metal, or other materials. *1980*

epoxy resins

Viscous liquids or brittle solids containing epoxide groups that can be crosslinked into final form by means of a chemical reaction with a variety of setting agents used with or without heat. *ASTM (C 904, C-3) 1968*

equations of motion

A set of equations which give information regarding the motion of a body or of a point in space as a function of time when initial position and initial velocity are known. Used for motion equations. *SP-7 1968*

equations of state

Equations relating temperature, pressure, and volume of a system in thermodynamic equilibrium. Used for state equations. *SP-7 1968*

equatorial atmosphere

The composition and characteristics of the earth's atmosphere at and/or near the equator. *1978*

equatorial regions

Areas on or near the earth's equator; regions between the Tropic of Cancer and the Tropic of Capricorn (23 degrees 27 minutes North or South of the Equator). *1980*

equators

The primary great circle of a sphere or spheroid, such as the earth, perpendicular to the polar axis; or a line resembling or approximating such a circle. *SP-7 1968*

equilibrium

A state of dynamic balance between the opposing actions, reactions, or velocities of a reversible process. *ASTM (E 7, E-4) 1968*

equilibrium flow

Gas flow in which energy is constant along streamlines and the composition of the gas at any point is not time dependent. Used for steady state flow. *SP-7 1968*

equinoxes

One of two points of intersection of the ecliptic and the celestial equator occupied by the sun when its declination is zero degrees. *SP-7 1968*

ERBE

Use earth radiation budget experiment

ergometers

Instruments for measuring muscular work. *SP-7 1968*

ergonomics

Use human factors engineering

erosion

Progressive loss of original material from a solid surface due to mechanical interaction between that surface and a fluid, a multicomponent fluid, or impinging liquid or solid particles. Used for scars (geology). *ASTM (G 76, G-2) 1968*

erosive burning

Combustion of solid propellants accompanied with nonsteady, high velocity flows of product gases across burning propellant surfaces. *1980*

error band

Use accuracy

error signals

Voltages the magnitude of which are proportional to the difference between an actual and a desired position. *SP-7 1968*

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MEDICAL SUBJECT
HEADINGS—
ANNOTATED
ALPHABETIC
LIST

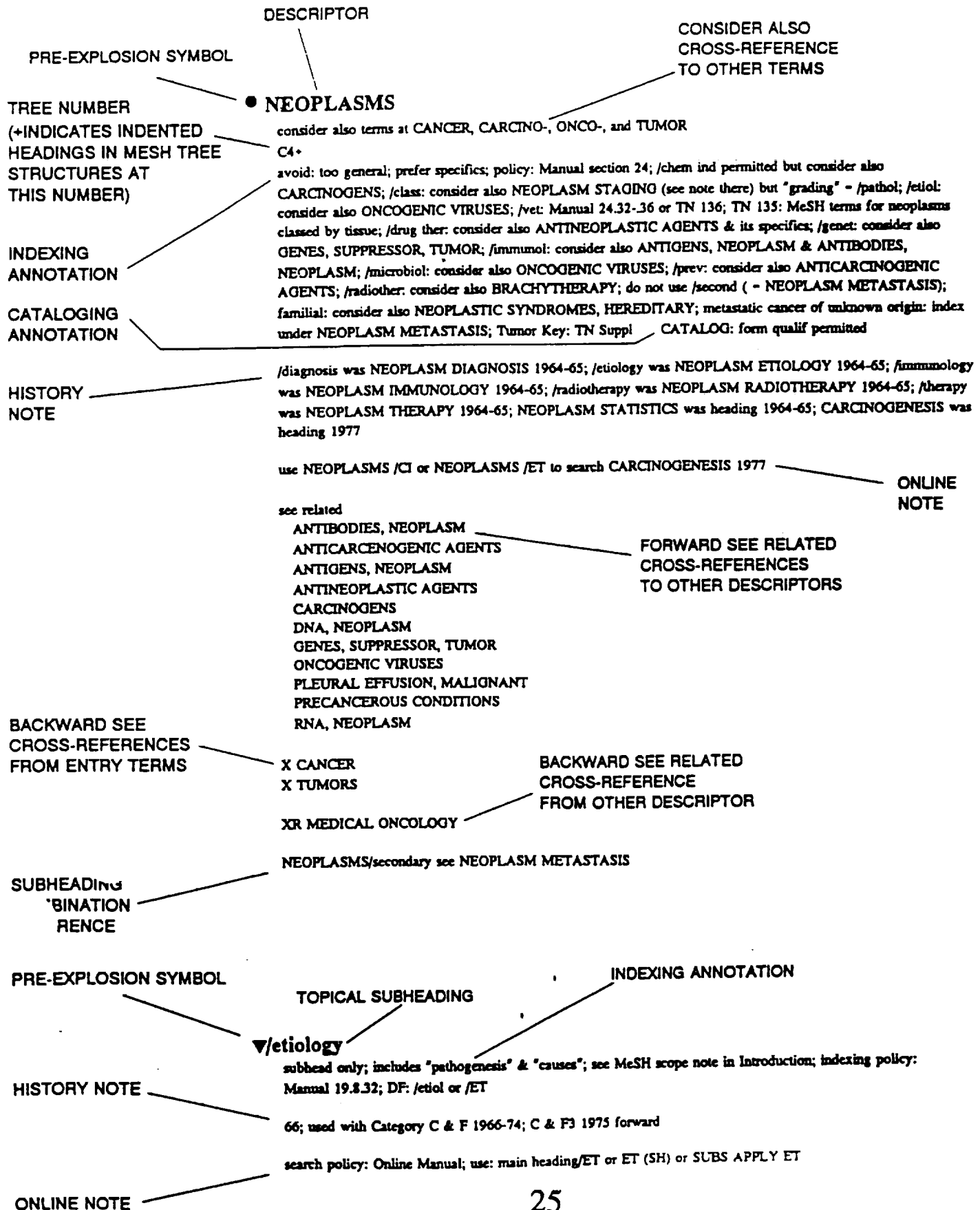
1993

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
Public Health Service
National Institutes of Health

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Library Operations
Medical Subject Headings
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SAMPLE ENTRIES

Below are sample entries for one MeSH Heading and one Topical Subheading. Further explanation may be found in the following introductory sections.



ENTEROPEPTIDASE

D4.586.277.654.732.760.284

91(73); was see under SERINE PROTEINASES 1973-90

ENTERSORPTION

E2.912.300

a type of sorption detoxification: do not use Dorland: read MeSH definition: do not use /util except by MeSH definition

91

ENTEROSTOMY

E4.579.338+

E4.765.338+

GEN only: prefer specific intestinal -ostomy; do not use /util except by MeSH definition

88

XR INTESTINES

ENTEROTOXEMIA

C1.252.410.90.217.325

C22.313

animal only; check tag ANIMAL; coord IM with precoord animal/dis term (IM) + animal (NIM) or with animal (IM) in absence of precoord
91(69); was see under CLOSTRIDIUM INFECTIONS 1969-90**ENTEROTOXINS**

D24.185.926.330

/antag permitted but consider also ANTITOXINS; coord IM with specific bacterium (IM) or (NIM)

64; was ENTEROTOXIN 1964-67 (Prov)

was ENTEROTOXINS to search ENTEROTOXIN back thru 1966 (as Prov 1966-67)

see related

STAPHYLOCOCCAL FOOD POISONING

ENTEROVIRUS INFECTIONS

C2.782.687.359+

ENTEROVIRUS 78 see ENTEROVIRUSES

B4.909.777.618.284+

ENTEROVIRUSES

B4.909.777.618.284+

a large group of the family Picornaviridae; infection = ENTEROVIRUS INFECTIONS

75; was ENTEROVIRUS 1963-74

was ENTEROVIRUSES to search ENTEROVIRUS 1966-74

X ENTEROVIRUS 70

ENTEROVIRUSES, PORCINE

B4.909.777.618.284.600

a picornavirus; infection: coord IM with ENTEROVIRUS INFECTIONS (IM); DF: note short X ref

91(75); was see under ENTEROVIRUSES 1975-90

X EC50 VIRUSES

X ENTERIC CYTOPATHIC SWINE ORPHAN VIRUS

X PORCINE ENTEROVIRUSES

X TALSAN DISEASE VIRUS

X TESCHEN DISEASE VIRUS

ENTOMOLOGY

G1.273.943.409

SPEC: SPEC qualif

ENTOMOPHTHORA

B5.354.730.944.300

a subclass of phycmycetes; infection: coord IM with MYCOSES (IM)

91(75); was see under ZYGOMYCOTINA 1986-90; was see under ZYGOMYCETES 1979-85; was see under PHYCOMYCETES 1975-78

ENTOPTIC VISION see VISION, ENTOPTIC

F2.430.816.929.800

G11.561.796.929.800

G11.697.911.730

ENTRAPMENT NEUROPATHY see NERVE COMPRESSION SYNDROMES

C10.772.491+

ENTREPRENEURSHIP

J1.219.375

N4.452.610.250

see qualif discreetly

92

ENTROPION

C11.338.443

ENURESIS

C12.777.934.284

F3.126.328

ENV GENE PRODUCTS see GENE PRODUCTS, ENV

D12.776.964.775.325+

D12.776.964.970.880.325+

ENV GENES see GENES, ENV

G5.275.526.850.200

G5.275.605.800.200

ENV-ONC FUSION PROTEIN see ONCOGENE PROTEINS, FUSION

D12.776.677.500+

D12.776.964.690+

ENV POLYPROTEINS see GENE PRODUCTS, ENV

D12.776.964.775.325+

D12.776.964.970.880.325+

ENV PROTEIN see GENE PRODUCTS, ENV

D12.776.964.775.325+

D12.776.964.970.880.325+

ENV PROTEIN GP41, HIV see HIV ENVELOPE PROTEIN GP41

D12.776.964.775.325.330

D12.776.964.970.880.325.330

D12.776.964.970.880.910.330

D24.611.216.327.570.470.330

ENV PROTEIN GP120, HIV see HIV ENVELOPE PROTEIN GP120

D12.776.964.775.325.330

D12.776.964.970.880.325.330

D24.611.216.327.570.470.330

ENVELOPE GLYCOPROTEIN GP120, HIV see HIV ENVELOPE PROTEIN GP120

D12.776.964.775.325.330

D12.776.964.970.880.325.330

D24.611.216.327.570.470.330

ENVELOPE PROTEIN GP41, HIV see HIV ENVELOPE PROTEIN GP41

D12.776.964.775.325.330

D12.776.964.970.880.325.330

D12.776.964.970.880.910.330

D24.611.216.327.570.470.330

ENVELOPE PROTEINS, VIRAL see VIRAL ENVELOPE PROTEINS

D12.776.964.970.880+

ENVIOMYCIN

D20.85.89.910.345

D20.338.135.922.345

see antituberc antibiotic

91(81); was see under VIOMYCINS 1981-90; was

TUBERACTINOMYCIN-N see under ANTIBIOTICS,

ANTITUBERCULAR 1975-80

was ENVIOMYCIN to search TUBERACTINOMYCIN-N back thru 1975

X TUBERACTINOMYCIN N

ENVIRONMENT

G3.230+

no qualif CATALOG: /goog /form

see related

SOCIAL ENVIRONMENT

ENVIRONMENT/microbiology see ENVIRONMENTAL

MICROBIOLOGY

ENVIRONMENT AND PUBLIC HEALTH (NON MESH)

G3+

ENVIRONMENT, CONTROLLED

G3.230.150+

no qualif

73

see related

ATMOSPHERE EXPOSURE CHAMBERS

INCUBATORS

X LAMINAR AIR-FLOW AREAS

ENVIRONMENT DESIGN

G3.230.200

11.283

11.880.709.359

74(72)

ENVIRONMENTAL AIR POLLUTANTS see AIR POLLUTANTS, ENVIRONMENTAL

D5.284.101.143+

ENVIRONMENTAL EXPOSURE

G3.230.460.350+

may or may not result in a disease; coord IM with specific substance (IM)

74(67)

see related

AIR POLLUTANTS, ENVIRONMENTAL

ENVIRONMENTAL MONITORING

OCCUPATIONAL EXPOSURE

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Public Health Service
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Bethesda, MD 20894

July 1993

ENTEROTOXEMIA
ENTEROTOXEMIA

ENTEROTOXINS
ENTEROTOXINS

ENTEROVIRUS
ENTEROVIRUS INFECTIONS
ENTEROVIRUS 70 *see* ENTEROVIRUSES

ENTEROVIRUSES
ENTEROVIRUSES
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PORCINE ENTEROVIRUSES *see* ENTEROVIRUSES, PORCINE

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PRIVATE ENTERPRISE *see* PRIVATE SECTOR
PUBLIC ENTERPRISE *see* PUBLIC SECTOR

ENTOMOLOGY
ENTOMOLOGY

ENTOMOPHTHORA
ENTOMOPHTHORA

ENTOPTIC
ENTOPTIC VISION *see* VISION, ENTOPTIC
VISION, ENTOPTIC

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ENTRAPMENT NEUROPATHY *see* NERVE COMPRESSION SYNDROMES

ENTREPRENEURSHIP
ENTREPRENEURSHIP

ENTROPION
ENTROPION

ENUCLEATION
EYE ENUCLEATION

ENURESIS
ENURESIS

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ENV GENE PRODUCTS *see* GENE PRODUCTS, ENV
ENV GENES *see* GENES, ENV
ENV-ONC FUSION PROTEIN *see* ONCOGENE PROTEINS, FUSION
ENV POLYPROTEINS *see* GENE PRODUCTS, ENV
ENV PROTEIN *see* GENE PRODUCTS, ENV
ENV PROTEIN GP41, HIV *see* HIV ENVELOPE PROTEIN GP41
ENV PROTEIN GP120, HIV *see* HIV ENVELOPE PROTEIN GP120
FUSION PROTEINS, ENV-ONC *see* ONCOGENE PROTEINS, FUSION
GENE PRODUCTS, ENV
GENES, ENV

ENVELOPE
ENVELOPE GLYCOPROTEIN GP120, HIV *see* HIV ENVELOPE PROTEIN GP120
ENVELOPE PROTEIN GP41, HIV *see* HIV ENVELOPE PROTEIN GP41
ENVELOPE PROTEINS, VIRAL *see* VIRAL ENVELOPE PROTEINS
HIV ENVELOPE PROTEIN GP41
HIV ENVELOPE PROTEIN GP120
HIV-1 ENVELOPE PROTEIN GP41 *see* HIV ENVELOPE PROTEIN GP41
HIV-1 ENVELOPE PROTEIN GP120 *see* HIV ENVELOPE PROTEIN GP120
NUCLEAR ENVELOPE *see* NUCLEAR MEMBRANE
VIRAL ENVELOPE PROTEINS

ENVIOMYCIN
ENVIOMYCIN

ENVIRONMENT
ENVIRONMENT
ENVIRONMENT AND PUBLIC HEALTH (NON MESH)
ENVIRONMENT, CONTROLLED
ENVIRONMENT DESIGN
EXTRATERRESTRIAL ENVIRONMENT
HEALTH FACILITY ENVIRONMENT
SOCIAL ENVIRONMENT

ENVIRONMENTAL
AIR POLLUTANTS, ENVIRONMENTAL
CARCINOGENS, ENVIRONMENTAL
ENVIRONMENTAL AIR POLLUTANTS *see* AIR POLLUTANTS, ENVIRONMENTAL
ENVIRONMENTAL EXPOSURE
ENVIRONMENTAL HEALTH
ENVIRONMENTAL MICROBIOLOGY
ENVIRONMENTAL MONITORING
ENVIRONMENTAL POLLUTANTS
ENVIRONMENTAL POLLUTANTS, PESTICIDES (NON MESH)
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MONITORING, ENVIRONMENTAL *see* ENVIRONMENTAL MONITORING
TOXIC SUBSTANCES, ENVIRONMENTAL *see* HAZARDOUS SUBSTANCES
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENZOOTIC ATLANTA *see* ENZOOTIC
ENZOOTIC BOVINE LEUKOSIS
ENZOOTIC ENCEPHALOMYELITIS VIRUS *see* BORNA DISEASE VIRUS

ENZYMATIC
ENZYMATIC ZONULOLYSIS

ENZYME
ACETYL ACTIVATING ENZYME *see* ACETYL COENZYME A SYNTHETASE
1,4-ALPHA-GLUCAN BRANCHING ENZYME
AMYLOPECTIN BRANCHING ENZYME *see* 1,4-ALPHA-GLUCAN BRANCHING ENZYME
ANGIOTENSIN I-CONVERTING ENZYME INHIBITOR *see* TEPROTIDE
ANGIOTENSIN CONVERTING ENZYME *see* KININASE II
ANGIOTENSIN-CONVERTING ENZYME INHIBITORS
ANGIOTENSIN-FORMING ENZYME *see* RENIN
ANTIBODY ENZYME TECHNIQUE, UNLABELED *see* IMMUNOENZYME TECHNIQUES
BRANCHING ENZYME *see* 1,4-ALPHA-GLUCAN BRANCHING ENZYME
C3 CLEAVING ENZYME *see* COMPLEMENT 3 CONVERTASE
CAT ENZYME *see* CHLORAMPHENICOL ACETYLTRANSFERASE
CHOLESTEROL SIDE-CHAIN CLEAVAGE ENZYME *see* CHOLESTEROL DESMOLASE
CITRATE CLEAVAGE ENZYME *see* ATP CITRATE LYASE
DNA PHOTOREACTIVATING ENZYME *see* DNA PHOTOLYASE
DNA RESTRICTION ENZYME BAMHI *see* DEOXYRIBONUCLEASE BAMHI
DNA RESTRICTION ENZYME ECORI *see* DEOXYRIBONUCLEASE ECORI
DNA RESTRICTION ENZYME HINDIII *see* DEOXYRIBONUCLEASE HINDIII
ELECTRODES, ENZYME *see* BIOSENSORS
ENZYME ACTIVATION
ENZYME IMMUNOASSAY *see* IMMUNOENZYME TECHNIQUES
ENZYME INDUCTION
ENZYME INHIBITORS
ENZYME-LABELED ANTIBODY TECHNIQUE *see* IMMUNOENZYME TECHNIQUES
ENZYME-LINKED IMMUNOSORBENT ASSAY
ENZYME MAPPING, RESTRICTION *see* RESTRICTION MAPPING
ENZYME MULTIPLIED IMMUNOASSAY TECHNIQUE
ENZYME PRECURSORS
ENZYME REACTIVATORS
ENZYME REPRESSION
ENZYME STABILITY
ENZYME TESTS
ENZYMES, COENZYMES, ENZYME INHIBITORS (NON MESH)
GLYCOGEN BRANCHING ENZYME *see* 1,4-ALPHA-GLUCAN BRANCHING ENZYME
GLYCOGEN DEBRANCHING ENZYME *see* GLYCOGEN DEBRANCHING ENZYME SYSTEM
GLYCOGEN DEBRANCHING ENZYME DEFICIENCY *see* GLYCOGEN STORAGE DISEASE TYPE III
GLYCOGEN DEBRANCHING ENZYME SYSTEM
GTP RING-OPENING ENZYME *see* GTP CYCLOHYDROLASE
IMMUNOASSAY, ENZYME *see* IMMUNOENZYME TECHNIQUES
LYSOSOMAL ENZYME DISORDERS *see* LYSOSOMAL STORAGE DISEASES
MALATE CONDENSING ENZYME *see* MALATE SYNTHASE
MALIC ENZYME *see* MALATE DEHYDROGENASE
OLD YELLOW ENZYME *see* NADPH DEHYDROGENASE
PHOTOREACTIVATING ENZYME *see* DNA PHOTOLYASE
PR-ENZYME *see* PHOSPHORYLASE PHOSPHATASE
Q-ENZYME *see* 1,4-ALPHA-GLUCAN BRANCHING ENZYME
SPHINGOMYELIN CLEAVING ENZYME *see* SPHINGOMYELIN PHOSPHODIESTERASE
TERMINAL ADDITION ENZYME *see* DNA NUCLEOTIDYLEXOTRANSFERASE

ENZYMES
AMINO ACID ACTIVATING ENZYMES *see* AMINO ACYL T RNA SYNTHETASES
COMPLEMENT ACTIVATING ENZYMES
DNA RELAXING ENZYMES *see* DNA UNTWISTING PROTEINS
DNA REPAIR ENZYMES *see* POLYDEOXYRIBONUCLEOTIDE SYNTHETASES
DNA RESTRICTION ENZYMES
DNA RESTRICTION ENZYMES, TYPE I *see* DEOXYRIBONUCLEASES, TYPE I SITE-SPECIFIC
DNA RESTRICTION ENZYMES, TYPE II *see* DEOXYRIBONUCLEASES, TYPE II SITE-SPECIFIC
DNA RESTRICTION ENZYMES, TYPE III *see* DEOXYRIBONUCLEASES, TYPE III SITE-SPECIFIC
DNA RESTRICTION-MODIFICATION ENZYMES
DNA UNTWISTING ENZYMES *see* DNA UNTWISTING PROTEINS
ENZYMES
ENZYMES, COENZYMES, ENZYME INHIBITORS (NON MESH)
ENZYMES, IMMOBILIZED
IMMOBILIZED ENZYMES *see* ENZYMES, IMMOBILIZED
MULTIFUNCTIONAL ENZYMES *see* MULTIENZYME COMPLEXES
PROTEOLYTIC ENZYMES *see* PEPTIDE HYDROLASES
TYPE I RESTRICTION ENZYMES *see* DEOXYRIBONUCLEASES, TYPE I SITE-SPECIFIC
TYPE II RESTRICTION ENZYMES *see* DEOXYRIBONUCLEASES, TYPE II SITE-SPECIFIC
TYPE III RESTRICTION ENZYMES *see* DEOXYRIBONUCLEASES, TYPE III SITE-SPECIFIC

| REPORT DOCUMENTATION PAGE | | | Form Approved OMB No. 0704-0188 | |
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National Library of Medicine

MEDICAL SUBJECT HEADINGS— TREE STRUCTURES

1993

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
Public Health Service
National Institutes of Health

National Library of Medicine
Library Operations
Medical Subject Headings
Bethesda, MD 20894

ENVIRONMENT AND PUBLIC HEALTH (NON MESH)

ENVIRONMENT AND PUBLIC HEALTH (NON MESH)

ENVIRONMENT

ALTITUDE

CONSERVATION OF NATURAL RESOURCES

CONSERVATION OF ENERGY RESOURCES

DISASTERS

DISASTER PLANNING

EXPLOSIONS

FIRES

FIRE EXTINGUISHING SYSTEMS

NATURAL DISASTERS

RELIEF WORK

ENERGY-GENERATING RESOURCES

ELECTRICITY

FOSSIL FUELS

COAL

COKE

PETROLEUM

FUEL OILS

GASOLINE

KEROSENE

NUCLEAR ENERGY

NUCLEAR FISSION

NUCLEAR FUSION

SOLAR ENERGY

ENVIRONMENT, CONTROLLED

AIR CONDITIONING

DIVING

HEATING

HOUSING

HOUSING FOR THE ELDERLY

HOUSING, ANIMAL

HOSPITALS, ANIMAL

PUBLIC HOUSING

HUMIDITY

LIFE SUPPORT SYSTEMS

LIGHTING

SEALED CABIN ECOLOGY

TEMPERATURE

VENTILATION

ENVIRONMENT DESIGN

EXTRATERRESTRIAL ENVIRONMENT

METEOROLOGICAL FACTORS

ATMOSPHERE

AIR

AIR IONIZATION

AIR MOVEMENTS

WIND

ATMOSPHERIC PRESSURE

AIR PRESSURE

VACUUM

CLIMATE

COLD CLIMATE

DESERT CLIMATE

MICROCLIMATE

TROPICAL CLIMATE

COSMIC RADIATION

WEATHER

HUMIDITY

LIGHTNING

RAIN

G3

G3.230

G3.230.58

G3.230.80

G3.230.80.78

G3.230.100

G3.230.100.35

G3.230.100.90

G3.230.100.120

G3.230.100.120.110

G3.230.100.200

G3.230.100.300

G3.230.132

G3.230.132.200

G3.230.132.258

G3.230.132.258.108

G3.230.132.258.108.110

G3.230.132.258.630

G3.230.132.258.630.500

G3.230.132.258.630.540

G3.230.132.258.630.600

G3.230.132.580

G3.230.132.580.500

G3.230.132.580.520

G3.230.132.708

G3.230.150

G3.230.150.50

G3.230.150.150

G3.230.150.300

G3.230.150.360

G3.230.150.360.125

G3.230.150.360.250

G3.230.150.360.250.200

G3.230.150.360.650

G3.230.150.372

G3.230.150.391

G3.230.150.410

G3.230.150.430

G3.230.150.450

G3.230.150.520

G3.230.200

G3.230.230

G3.230.300

G3.230.300.100

G3.230.300.100.150

G3.230.300.100.150.100

G3.230.300.100.150.185

G3.230.300.100.150.185.200

G3.230.300.100.185

G3.230.300.100.185.100

G3.230.300.100.185.902

G3.230.300.100.250

G3.230.300.100.250.275

G3.230.300.100.250.325

G3.230.300.100.250.450

G3.230.300.100.250.600

G3.230.300.100.300

G3.230.300.100.725

G3.230.300.100.725.310

G3.230.300.100.725.375

G3.230.300.100.725.450

I1.880.787.

H1.671.252

J1.435

J1.435.229

J1.435.229.

J1.435.723

J1.740.400.

J1.435.723.

J1.435.723.

J1.435.723.

H1.671.579.

H1.671.579.

H1.671.579.

H1.671.579.

G3.230.150

G3.230.150.50

G3.230.150.150

G3.230.150.300

G3.230.150.360

G3.230.150.360.125

G3.230.150.360.250

G3.230.150.360.250.200

G3.230.150.360.650

G3.230.150.372

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G3.230.300.100.150.185

G3.230.300.100.150.185.200

G3.230.300.100.185

G3.230.300.100.185.100

G3.230.300.100.185.902

G3.230.300.100.250

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G3.230.300.100.250.325

G3.230.300.100.250.450

G3.230.300.100.250.600

G3.230.300.100.300

G3.230.300.100.725

G3.230.300.100.725.310

G3.230.300.100.725.375

G3.230.300.100.725.450

J1.637.680

J1.740.400.

J1.740.400.

J1.740.400.

J1.740.400.

H1.671.579.

H1.671.579.

H1.671.579.

H1.671.579.

G3.230.150

G3.230.150.50

G3.230.150.150

G3.230.150.300

G3.230.150.360

G3.230.150.360.125

G3.230.150.360.250

G3.230.150.360.250.200

G3.230.150.360.650

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G3.230.300.100.185.902

G3.230.300.100.250

G3.230.300.100.250.275

G3.230.300.100.250.325

G3.230.300.100.250.450

G3.230.300.100.250.600

G3.230.300.100.300

G3.230.300.100.725

G3.230.300.100.725.310

G3.230.300.100.725.375

G3.230.300.100.725.450

PARTS OF THESAURI AND THEIR TITLES

| Thesaurus | [Primary Alphabetic Sequence] | [Dictionary] | [Concordance of all Words] | [Classified Display] |
|---------------------------|---|--|--|---------------------------------|
| DOE 1 vol. | <u>Subject Thesaurus</u> | Some definitions within alphabetic sequence (DEF) | N/A | N/A |
| DTIC 3 parts in 1 vol. | <u>Posting Terms</u> (Section 1) | Some definitions within primary alphabetic sequence (no tag) | <u>Key Words Out of Context</u> (section 3) | <u>Hierarchy</u> (section 2) |
| MeSH 3 vols. (NTIS) | <u>Annotated Alphabetic List</u> | Some definitions within scope notes (no tag) | <u>Permuted Medical Subject Headings</u> | <u>Tree Structures</u> |
| NASA | <u>Hierarchical Listing</u> (vol. 1) | <u>Definitions</u> (vol. 3) | <u>Access Vocabulary</u> (vol. 2) | N/A |

THESAURUS NOTATION FOR SEMANTIC RELATIONSHIPS

| Thesaurus | Equivalence | | Hierarchy | | Association | |
|-----------|-------------|------------|-------------------|--------------------------------------|-------------|------------|
| | Code | Reciprocal | Code | Reciprocal | Code | Reciprocal |
| DOE | USE | UF | BT [1,2] | NT [1,2] | RT | RT |
| | USE AND | UF + | NT [1,2] | BT 1,2] | | |
| DTIC | use | UF | BT | NT | [none] | |
| | use and | UFC | * | [none] (= broader terms exist) | | |
| MeSH | see | x | Tree Structures | | see related | XR |
| NASA | USE | UF | Generic Structure | | RT | RT |

4
NIS

DIALOG DATABASES WITH ONLINE THESAURI (PARTIAL LISTING)

??THESAURI

THE FOLLOWING ARE DIALOG FILES THAT CONTAIN AN ONLINE THESAURUS:

1 ERIC

11 PSYCINFO

37 SOCIOLOGICAL ABSTRACTS

72,172,173 EMBASE

154,155 MEDLINE

DIALOG: ERIC

?s environment

S1 40800

?s environment/de

S2 27317

?s environment/df

S3 3250

DIALOG BASIC INDEX/DICTIONARY FILE: ERIC

?expand environment

| Ref | Items | RT | Index-terms |
|-----|-------|----|---|
| E1 | 1 | | ENVIRONMENT |
| E2 | 1 | | ENVIRONMENTAL |
| E3 | 40800 | 33 | ENVIRONMENT (SURROUNDING CONDITIONS, FORCES, OR FACTORS P...) |
| E4 | 1 | | ENVIRONMENT AND INTEREST INVENTORY |
| E5 | 0 | 1 | ENVIRONMENT BEHAVIOR RESEARCH |
| E6 | 18661 | | ENVIRONMENTAL |

DIALOG ONLINE THESAURUS DISPLAY: ERIC

?expand e3

| Ref | Items | Type | RT | Index-term |
|-----|-------|------|----|--|
| R1 | 40800 | | 33 | * ENVIRONMENT (SURROUNDING CONDITIONS, FORCES OR FACTORS P...) |
| R2 | 2347 | N | 25 | CULTURAL CONTEXT |
| R3 | 337 | N | 12 | DISADVANTAGED ENVIRONMENT |
| . | | | | |
| . | | | | |
| . | | | | |
| R19 | 4422 | R | 33 | ADJUSTMENT (TO ENVIRONMENT) |
| R20 | 55 | R | 12 | APPROPRIATE TECHNOLOGY |

PRINTED THESAURUS

DIALOG ONLINE THESAURUS DISPLAY: ERIC

?expand (indexing)

| Ref | Items | Type | RT |
|-----|-------|------|----|
| R1 | 1795 | | 17 |
| R2 | 13 | U | 1 |
| R3 | 225 | N | 8 |
| R4 | 3438 | B | 14 |
| R5 | 510 | R | 8 |
| R7 | 2250 | R | 12 |
| R8 | 148 | R | 5 |
| R9 | 9520 | R | 26 |
| R10 | 66 | R | 6 |

Index-term

INDEXING (ASSIGNMENT OF INDEX ---->
TERMS TO DOCUMENTS OR OB...)

SUBJECT ACCESS
AUTOMATIC INDEXING
DOCUMENTATION
ABSTRACTING
CATALOGING
CITATION INDEXES
CLASSIFICATION
COORDINATE INDEXES

INDEXING

Jul. 1966

CIJE: 354 RIE: 458

SN

Assignment of index terms to documents of objects in order to later retrieve or locate these documents or objects according to the selected concepts designated by the index terms (note: do not use for "cost indexes")

DIALOG THESAURUS CODES

?expand (educational environment)

| Ref | Items | Type | RT | Index-term |
|------|-------|------|----|---|
| R1 | 4757 | | 28 | * EDUCATIONAL ENVIRONMENT (CONDITIONS, FORCES OR FACTORS WITHING OR EXU ...) |
| ↔ R2 | 0 | U | 1 | ACADEMIC ENVIRONMENT |
| R3 | 1 | U | 1 | SCHOOL CLIMATE |
| R4 | 0 | U | 1 | SCHOOL CONDITIONS (1966 1980) |
| R5 | 4149 | N | 16 | CLASSROOM ENVIRONMENT |
| R6 | 40800 | B | 33 | ENVIRONMENT |

?expand (academic environment)

| Ref | Items | Type | RT | Index-term |
|------|-------|------|----|-------------------------|
| ↔ R1 | 0 | | 1 | * ACADEMIC ENVIRONMENT |
| R2 | 4757 | U | 28 | EDUCATIONAL ENVIRONMENT |

DIALOG THESAURUS CODES: PSYCINFO

?expand (attitudes)

| Ref | Items | Type | RT | Index-term |
|-------|-------|------|----|----------------------------|
| R1 | 59218 | | 49 | ATTITUDES |
| R2 | 531 | R | 6 | AGES (ATTITUDES TOWARD) |
| R3 | 57 | R | 6 | AGING (ATTITUDES TOWARD) |
| R4 | 409 | R | 3 | ALCOHOL DRINKING ATTITUDES |
| ↔ R10 | 0 | F | 1 | BELIEFS (NONRELIGIOUS) |
| R11 | 569 | R | 6 | CLIENT ATTITUDES |

MESH ON DIALOG

File 153:MEDLINE 75-82

?expand (migraine)

| Ref | Items | Type | RT | Index-term |
|-----|-------|------|----|-------------------------------------|
| R1 | 1834 | | 5 | * MIGRAINE |
| R2 | 6267 | X | | DC=C10.228.140.300.937.5 (MIGRAINE) |
| R5 | 162 | X | 1 | HEMICRANIA |
| R6 | 1144 | B | 7 | VASCULAR HEADACHE |

BROADER TERM/NARROWER TERM SEQUENCE

ERIC:

?expand (indexing)

| Ref | Items | Type | RT | Index-terms |
|-----|-------|------|----|--------------------|
| R1 | 1795 | | 17 | * INDEXING |
| R2 | 13 | U | 1 | SUBJECT ACCESS |
| R3 | 225 | N | 8 | AUTOMATIC INDEXING |
| R4 | 3438 | B | 14 | DOCUMENTATION |
| R5 | 510 | R | 8 | ABSTRACTING |

The Computer Database

?expand (text editors)

| Ref | Items | Type | RT | Index-Terms |
|-----|-------|------|----|----------------------|
| R1 | 939 | | 10 | * TEXT EDITORS |
| R2 | 1642 | B | 7 | EDITORS |
| R3 | 5310 | B | 5 | WORD PROCESSING |
| R4 | 24 | N | 2 | GLOBAL SEARCHING |
| R5 | 23 | N | 1 | GRAMMAR CRITIQUING |
| . | | | | . |
| . | | | | . |
| . | | | | . |
| R9 | 1084 | R | 10 | DOCUMENT PREPARATION |
| R10 | 721 | R | 12 | PUBLISHING INDUSTRY |

RECOMMENDED THESAURUS DISPLAY

?expand (indexing)

| Ref | Items | ‡RT | Type | Index-term |
|-----|-------|-----|------|---------------------|
| R1 | 1795 | 17 | | * INDEXING |
| R2 | 13 | 1 | U | SUBJECT ACCESS |
| R3 | 3438 | 14 | B | DOCUMENTATION+ |
| R4 | 225 | 8 | N | AUTOMATIC INDEXING+ |
| R5 | 510 | 8 | R | ABSTRACTING+ |
| R6 | 88 | 14 | R | BIBLIOMETRICS+ |
| R7 | 2250 | 12 | R | CATALOGING+ |
| R8 | 148 | 5 | R | CITATION INDEXES+ |

‡ CONSIDER DELETION

(rev. 5/31/88)

DIALOG: TREE STRUCTURES

?expand dc = C23.888.592.612

| Ref | Items | Index-term |
|-----|-------|--|
| E1 | 248 | DC = C23.888.592.888.638 |
| E2 | 697 | DC = C23.888.592.888.652 |
| E3 | 0 | DC = C23.888.592.612 |
| E4 | 9136 | DC = C23.888.592.612 (PAIN) |
| E5 | 1740 | DC = C23.888.592.612.107 (BACKACHE) |
| . | | . |
| . | | . |
| . | | . |
| E11 | 1612 | DC = C23.888.592.612.429 (HEADACHE) |
| E12 | 303 | DC = C23.888.592.612.429.814 (VASCULAR HEADACHE) |

DIALOG: ERIC ONLINE ROTATED DISPLAY

?expand zz = environment

| Ref | Items | Index-terms |
|-----|-------|---|
| . | . | . |
| . | . | . |
| . | . | . |
| E3 | 40264 | * ZZ=ENVIRONMENT |
| E4 | 238 | ZZ=ENVIRONMENT // ACOUSTICAL |
| E5 | 1 | ZZ=ENVIRONMENT // BEHAVIORAL SCIENCE RESEARCH |
| E6 | 4079 | ZZ=ENVIRONMENT // CLASSROOM |
| E7 | 1477 | ZZ=ENVIRONMENT // COLLEGE |
| E8 | 262 | ZZ=ENVIRONMENT // CONTROLLED |
| E9 | 336 | ZZ=ENVIRONMENT // DISADVANTAGED |
| . | . | . |
| . | . | . |
| . | . | . |
| E15 | 428 | ZZ=ENVIRONMENT // RURAL |
| E16 | 293 | ZZ=ENVIRONMENT // SIMULATED |
| . | . | . |
| . | . | . |
| . | . | . |
| E24 | 1891 | ZZ=ENVIRONMENT // WORK |

| | | | |
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| 13. ABSTRACT (maximum 200 words) The theme of this NASA Scientific and Technical Information Program Coordinating Council meeting was the role of controlled vocabularies (thesauri) in information retrieval. Included are summaries of the presentations and the accompanying visuals. Dr. Raya Fidel spoke on Retrieval: Free Text, Full Text, and Controlled Vocabularies. Dr. Bella Hass Weinberg spoke on Controlled Vocabularies and Thesaurus Standards. The presentations were followed by a panel discussion with participation from NASA, NLM, DTIC, and DOE; this discussion, however, is not summarized in any detail here. | | | |
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